Fig. 1A-1

Sequence	2105	KM643-4-11	F2-103	110	KM341-1-19
1. EPPTACREKQYLI	16353	13220	31427	13403	14108
2. PTACREKQYLINS	17358	13220	39202	13575	14194
3. ACREKQYLINSQC	20267	13212	35911	13681	14013
4. REKQYLINSQCCS	17096	13305	43762	13685	13952
5. KQYLINSQCCSLC	23249	13292	36839	13894	13779
6. YLINSQCCSLCQP	16140	13470	44975	13964	13909
7. INSQCCSLCQPGQ	15918	13390	54811	13652	13751
8. SQCCSLCQPGQKL	18804	13271	60441	13872	13819
9. CCSLCQPGQKLVS	16534	13436	56601	13821	13851
10. SLCQPGQKLVSDC	18155	13314	54718	13705	13965
11. CQPGQKLVSDCTE	17614	13460	52073	13699	13781
12. PGQKLVSDCTEFT	**91270**	13334	58177	13464	13725
13. QKLVSDCTEFTET	**96926**	13465	49003	14916	13875
14. LVSDCTEFTETEC	**141877**	13634	62580	13394	13783
15. SDCTEFTETECLP	**148692**	13213	42916	13571	13696
16. CTEFTETECLPCG	**145926**	13591	38170	13220	13824
17. EFTETECLPCGES	**136350**	13593	56597	13434	13638
18. TETECLPCGESEF	**77805**	13298	33201	13398	13723
19. TECLPCGESEFLD	**50648**	13544	29781	13488	13685
20. CLPCGESEFLDTW	**79246**	13736	26075	13599	13807
21. PCGESEFLDTWNR	**93482**	13626	44337	**16142**	13830
22. GESEFLDTWNRET	**68932**	14815	45811	13777	13832
23. SEFLDTWNRETHC	**105899**	13777	40462	14023	13898
24. FLDTWNRETHCHQ	**55803**	**15498**	79990	**40210**	13937
25. DTWNRETHCHQHK	19237	13367	34525	13995	13737
26. WNRETHCHQHKYC	22963	13843	32912	15601	13595
27. RETHCHQHKYCDP	16522	13282	41600	13644	13595
28. THCHQHKYCDPNL	25181	13211	32264	13567	13621
29. CHQHKYCDPNLGL	16455	13300	34480	13684	13671
30. QHKYCDPNLGLRV	16627	13541	39057	13461	13670
31. KYCDPNLGLRVQQ	16429	13491	46485	13452	13779
32. CDPNLGLRVQQKG	16877	13454	**90926**	13293	13799
33. PNLGLRVQQKGTS	18117	13611	**123330**	13358	13917
34. LGLRVQQKGTSET	22898	13512	**237353**	13381	**15032**
35. LRVQQKGTSETDT	24787	13599	**250401**	13364	13774
36. VQQKGTSETDTIC	28492	13372	35303	13124	13686
37. QKGTSETDTICTC	27724	13490	35334	13298	13569
38. GTSETDTICTCEE	18834	13340	29905	13289	13525
39. SETDTICTCEEGW	16914	13340	24871	13315	13486
40. TDTICTCEEGWHC	17866	13568	24475	13481	13631

Fig. 1A-2

Sequence	2105	KM643-4-11	F2-103	110	KM341-1-19
41. TICTCEEGWHCTS	18122	13767	24169	13564	**68670**
42. CTCEEGWHCTSEA	17485	**18955**	28190	13736	**75214**
43. CEEGWHCTSEACE	16859	**41843**	32056	13525	**16033**
44. EGWHCTSEACESC	17735	13381	35518	13771	13867
45. WHCTSEACESCVL	**64890**	13444	38190	13708	13687
46. CTSEACESCVLHR	16788	13446	39497	13859	13636
47. SEACESCVLHRSC	16421	13555	40206	13482	13584
48. ACESCVLHRSCSP	15795	13183	36735	13503	13575
49. ESCVLHRSCSPGF	47038	13504	41251	14500	13637
50. CVLHRSCSPGFGV	17469	13279	45795	13484	13573
51. LHRSCSPGFGVKQ	16635	13382	**88644**	13187	13567
52. RSCSPGFGVKQIA	16642	13339	**114128**	13368	13623
53. CSPGFGVKQIATG	17457	13485	**110624**	13323	13703
54. PGFGVKQIATGVS	18818	13577	**253876**	13234	13769
55. FGVKQIATGVSDT	20521	13429	**697242**	13178	13903
56. VKQIATGVSDTIC	20855	13510	**91544**	13176	13681
57. QIATGVSDTICEP	19014	13523	40193	13154	13575
58. ATGVSDTICEPCP	17139	13526	38012	13127	13599
59. GVSDTICEPCPVG	16515	13508	31118	13376	13571
60. SDTICEPCPVGFF	42762	13590	25542	13392	13534
61. TICEPCPVGFFSN	25039	13366	27921	13524	13783
62. CEPCPVGFFSNVS	18141	13429	31377	14364	13717
63. PCPVGFFSNVSSA	20806	13343	51411	**19243**	13979
64. PVGFFSNVSSAFE	**95541**	14553	**128669**	158203	14523
65. GFFSNVSSAFEKC	**67908**	13506	**94016**	14323	13831
66. FSNVSSAFEKCHP	22379	13350	**124184**	14057	13699
67. NVSSAFEKCHPWT	18703	13298	44966	13518	13676
68. SSAFEKCHPWTSC	19809	13459	37784	13433	13553
69. AFEKCHPWTSCET	16212	13387	38013	13279	13683
70. EKCHPWTSCETKD	15198	13423	39248	13315	13494
71. CHPWTSCETKDLV	15754	13383	40627	13228	13673
72. PWTSCETKDLVVQ	15609	13426	46662	13247	13613
73. TSCETKDLVVQQA	16454	13377	46750	13228	13670
74. CETKDLVVQQAGT	16875	13544	42504	13185	13700
75. TKDLVVQQAGTNK	17357	14026	**83860**	13184	13674
76. DLVVQQAGTNKTD	17735	13434	34853	13154	13776
77. VVQQAGTNKTDVV	17176	13805	51573	13166	13651
78. QQAGTNKTDVVCG	15794	13261	27337	13103	13398
79. AGTNKTDVVCGPQ	15793	13448	25989	13304	13658
80. TNKTDVVCGPQDR	15114	13481	24807	13199	13767
81. KTDVVCGPQDRLR	15782	13328	35951	13548	14112
82. DVVCGPQDRLRAL	16644	13255	33393	13756	14104

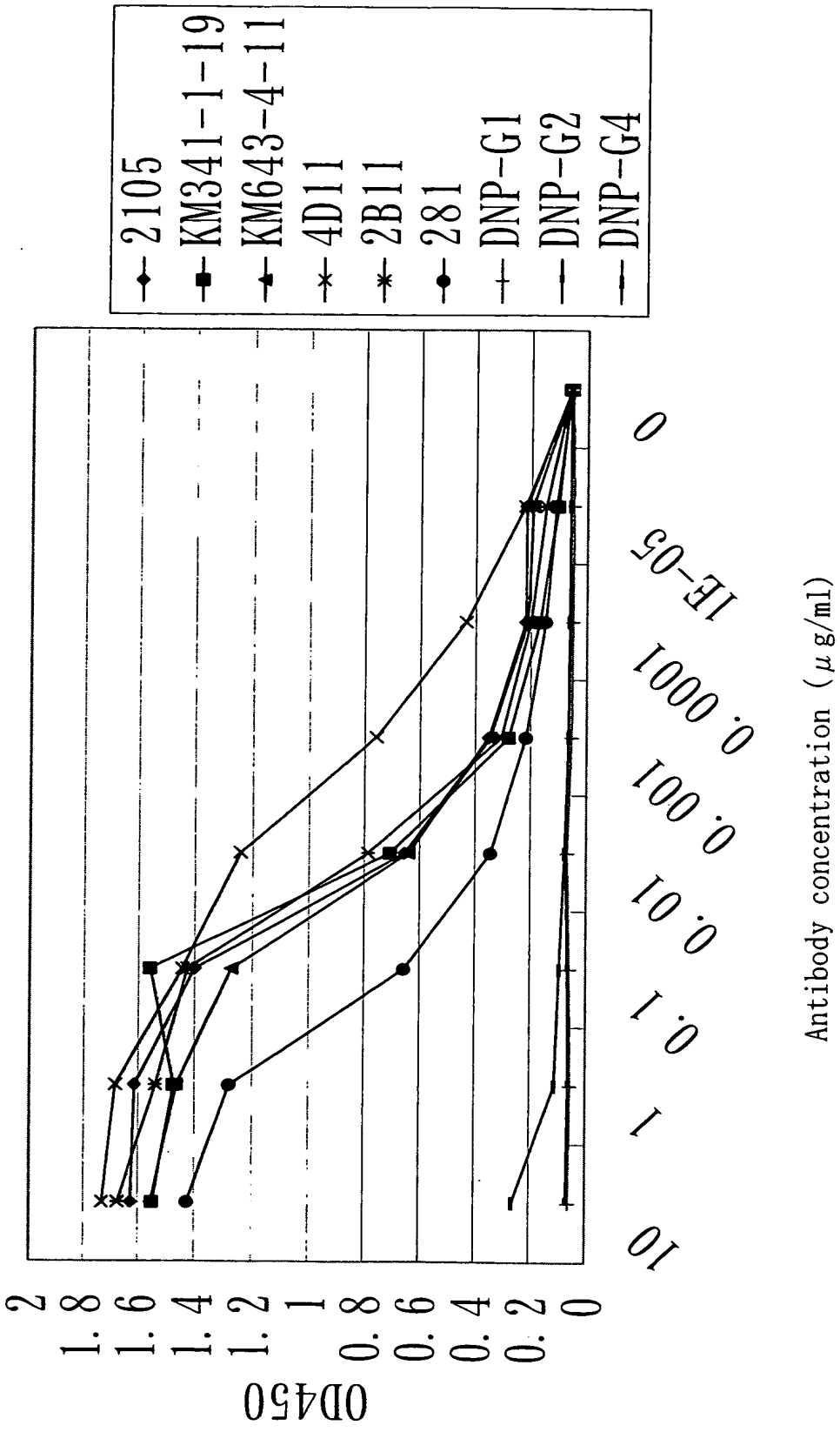
Fig. 1B-1

Sequence	F4-465	281-1-10	2B11	F72	F76	4D11
1. EPPTACREKQYLI	20561	4194	14158	3965	3348	14138
2. PTACREKQYLINS	19249	4141	14276	3906	3420	14387
3. ACREKQYLINSQC	20418	4221	14276	3884	3300	14044
4. REKQYLINSQCCS	20278	4080	14214	3849	3546	13956
5. KQYLINSQCCSLC	19642	4169	14082	3806	3378	14443
6. YLINSQCCSLCQP	19658	4184	14231	4082	3464	14432
7. INSQCCSLCQPGQ	18482	4603	13927	3986	3157	13783
8. SQCCSLCQPGQKL	19075	4326	13748	3934	3675	13471
9. CCSLCQPGQKLVS	20282	4349	13578	4046	3336	13431
10. SLCQPGQKLVSDC	20175	4841	13522	3948	3222	13387
11. CQPGQKLVSDCTE	22520	4576	13441	4115	3566	13339
12. PGQKLVSDCTEFT	23688	4499	13618	4012	3525	13290
13. QKLVSDCTEFTET	22029	4771	13528	4294	3539	13450
14. LVSDCTEFTETEC	23692	5212	13439	4177	3601	14898
15. SDCTEFTETECLP	25950	4864	13359	4095	3362	13277
16. CTEFTETECLPCG	20943	4906	13496	4121	3582	13874
17. EFTETECLPCGES	**37123**	4748	13570	3960	3402	**16583**
18. TETECLPCGESEF	23400	4807	13444	3811	3407	13808
19. TECLPCGESEFLD	21427	4649	13352	3970	3288	13566
20. CLPCGESEFLDTW	18021	4794	**19449**	3940	**5926**	**47209**
21. PCGESEFLDTWNR	26480	**7656**	**86887**	5478	16438	**165895**
22. GESEFLDTWNRET	25229	4906	**24124**	4337	4362	**32083**
23. SEFLDTWNRETHC	23274	5979	**30344**	4138	4083	**72724**
24. FLDTWNRETHCHQ	28280	**19544**	**120439**	4636	6401	**336496**
25. DTWNRETHCHQHK	20114	4107	14285	4029	3459	14028
26. WNRETHCHQHKYC	21110	4714	16070	4111	3819	**25715**
27. RETHCHQHKYCDP	19452	4075	13942	4000	3252	13812
28. THCHQHKYCDPNL	18412	4221	14203	3912	3459	14295
29. CHQHKYCDPNLGL	18890	4288	16566	4025	3473	13886
30. QHKYCDPNLGLRV	19296	4313	13580	4132	3383	13355
31. KYCDPNLGLRVQQ	20430	4460	13469	4254	3651	13357
32. CDPNLGLRVQQKG	28700	4570	13568	5394	4575	13336
33. PNLGLRVQQKGTS	**39822**	5229	13590	24278	6996	13404
34. LGLRVQQKGTSET	**52908**	4681	13651	7042	4112	13400
35. LRVQQKGTSETDT	**56985**	4376	13514	4839	16679	13557
36. VQQKGTSETDTIC	21684	4531	13423	3960	3258	13355
37. QKGTSETDTICTC	21838	4509	13507	3975	3355	13365
38. GTSETDTICTCEE	21896	4074	13348	3856	3298	13453
39. SETDTICTCEEGW	18789	4082	13377	3687	3297	13606
40. TDTICTCEEGWHC	17729	4187	13485	3756	3638	**19679**

Fig. 1B-2

Sequence	F4-465	281-1-10	2B11	F72	F76	4D11
41. TICTCEEGWHCTS	22932	4207	14559	4151	3992	**46128**
42. CTCEEGWHCTSEA	22823	4167	14428	4077	3394	14309
43. CEEGWHCTSEACE	25545	4071	14192	4118	3375	14162
44. EGWHCTSEACESC	23461	4272	14290	4171	3393	14029
45. WHCTSEACESCVL	20999	4198	14136	4318	3465	14065
46. CTSEACESCVLHR	20553	4273	14301	4152	3396	14337
47. SEACESCVLHRSC	20792	4234	13900	4122	3439	13877
48. ACESCVLHRSCSP	21816	4179	13741	3934	3525	13539
49. ESCVLHRSCSPGF	20599	4725	13758	4141	3514	13658
50. CVLHRSCSPGFGV	19851	4393	13533	4127	3526	13320
51. LHRSCSPGFGVKQ	23160	4317	13486	4851	18376	13355
52. RSCSPGFGVKQIA	24797	4495	13728	5568	15564	13375
53. CSPGFGVKQIATG	**30890**	4962	13400	8711	3383	13340
54. PGFGVKQIATGVS	**82448**	5027	13415	11404	4102	13378
55. FGVKQIATGVSDT	**126309**	4541	13423	4896	3515	13474
56. VKQIATGVSDTIC	**32389**	4361	13454	4040	3278	13305
57. QIATGVSDTICEP	28554	4308	13325	3807	3318	13350
58. ATGVSDTICEPCP	22484	4176	13463	3868	3241	13399
59. GVSDTICEPCPVG	21417	4277	13329	3584	3259	13475
60. SDTICEPCPVGFF	20192	4360	13337	3725	3358	14425
61. TICEPCPVGFFSN	25475	4390	14453	4101	3446	**15502**
62. CEPCPVGFFSNVS	26387	4419	14370	4434	3538	14441
63. PCPVGFFSNVSSA	**40241**	4468	14425	4363	3409	14664
64. PVGFFSNVSSAFE	27432	**11225**	**85432**	4772	5735	**49493**
65. GFFSNVSSAFEKC	**77408**	4483	14462	4173	3489	14521
66. FSNVSSAFEKCHP	**57923**	4088	14050	4230	3296	13989
67. NVSSAFEKCHPWT	23154	4031	13752	4025	3343	13619
68. SSAFEKCHPWTSC	20994	4170	13512	4006	3419	13466
69. AFEKCHPWTSCET	21390	4498	13629	4028	3413	13518
70. EKCHPWTSCETKD	19639	4186	13571	3911	3403	**16038**
71. CHPWTSCETKDLV	20967	4216	13608	4177	3489	13283
72. PWTSCETKDLVVQ	23271	4300	13420	4459	3316	13507
73. TSCETKDLVVQQA	26353	4690	13457	4411	3496	13462
74. CETKDLVVQQAGT	26955	4517	13389	4600	3403	13433
75. TKDLVVQQAGTNK	**63164**	**6695**	13475	**60382**	7609	13271
76. DLVVQQAGTNKTD	25820	4567	13537	4057	3585	13328
77. VVQQAGTNKTDVV	28426	4587	13372	4179	3418	13309
78. QQAGTNKTDVVCG	19474	4111	13455	3709	3809	13332
79. AGTNKTDVVCGPQ	18988	4186	13517	3868	3231	13436
80. TNKTDVVCGPQDR	18178	4662	13423	3654	4897	13350
81. KTDVVCGPQDRLR	27431	4208	13879	4242	4238	13779
82. DVVCGPQDRLRAL	28872	4127	14128	4179	3459	13855

Fig. 2A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10
1
0.1
0.01
0.001
1E-05
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Antibody concentration (μg/ml)
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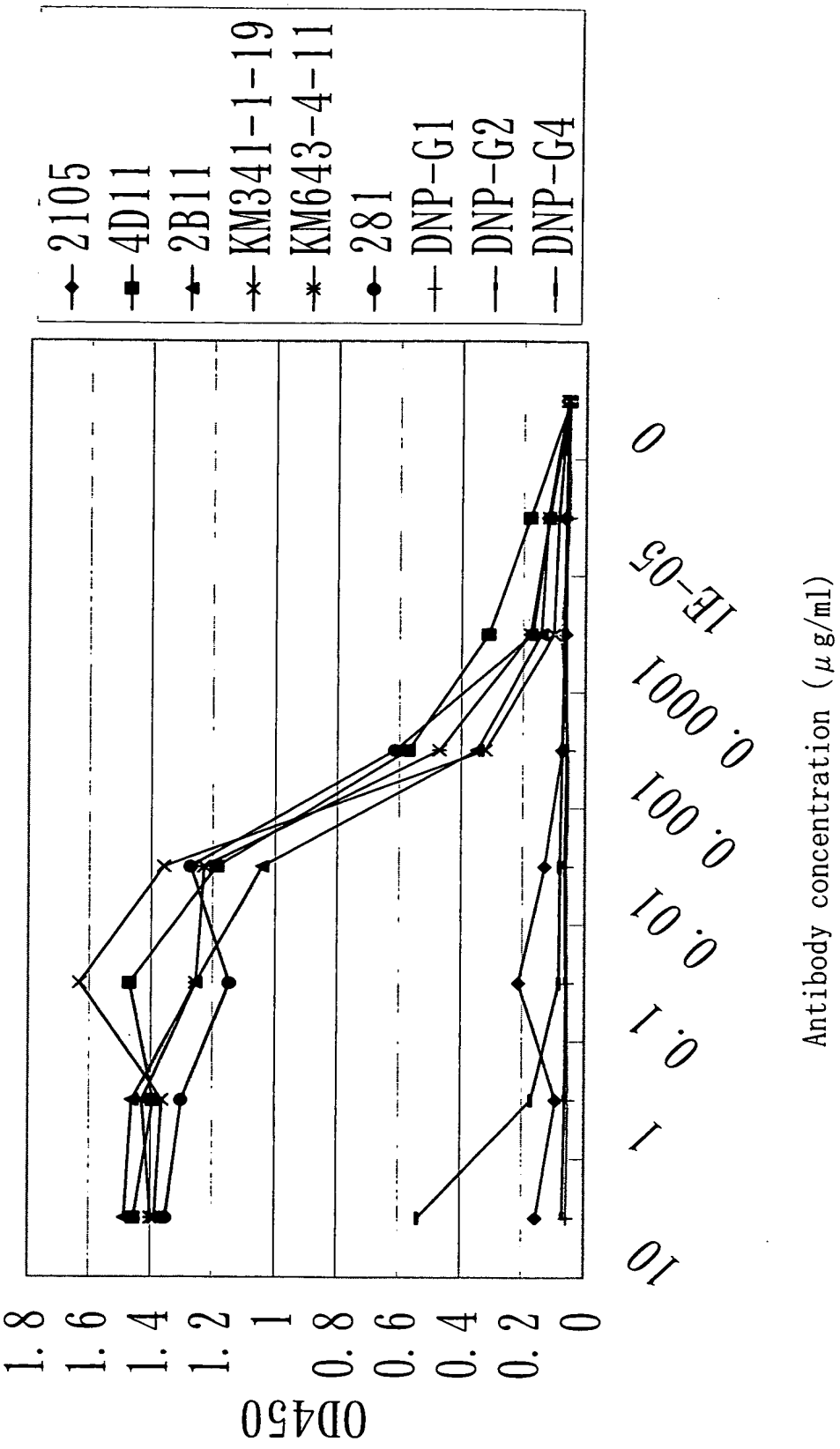
KM643-4-11
4D11
2B11
281
DNP-G1
DNP-G2
DNP-G4

Fig. 2B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0.6
0.4
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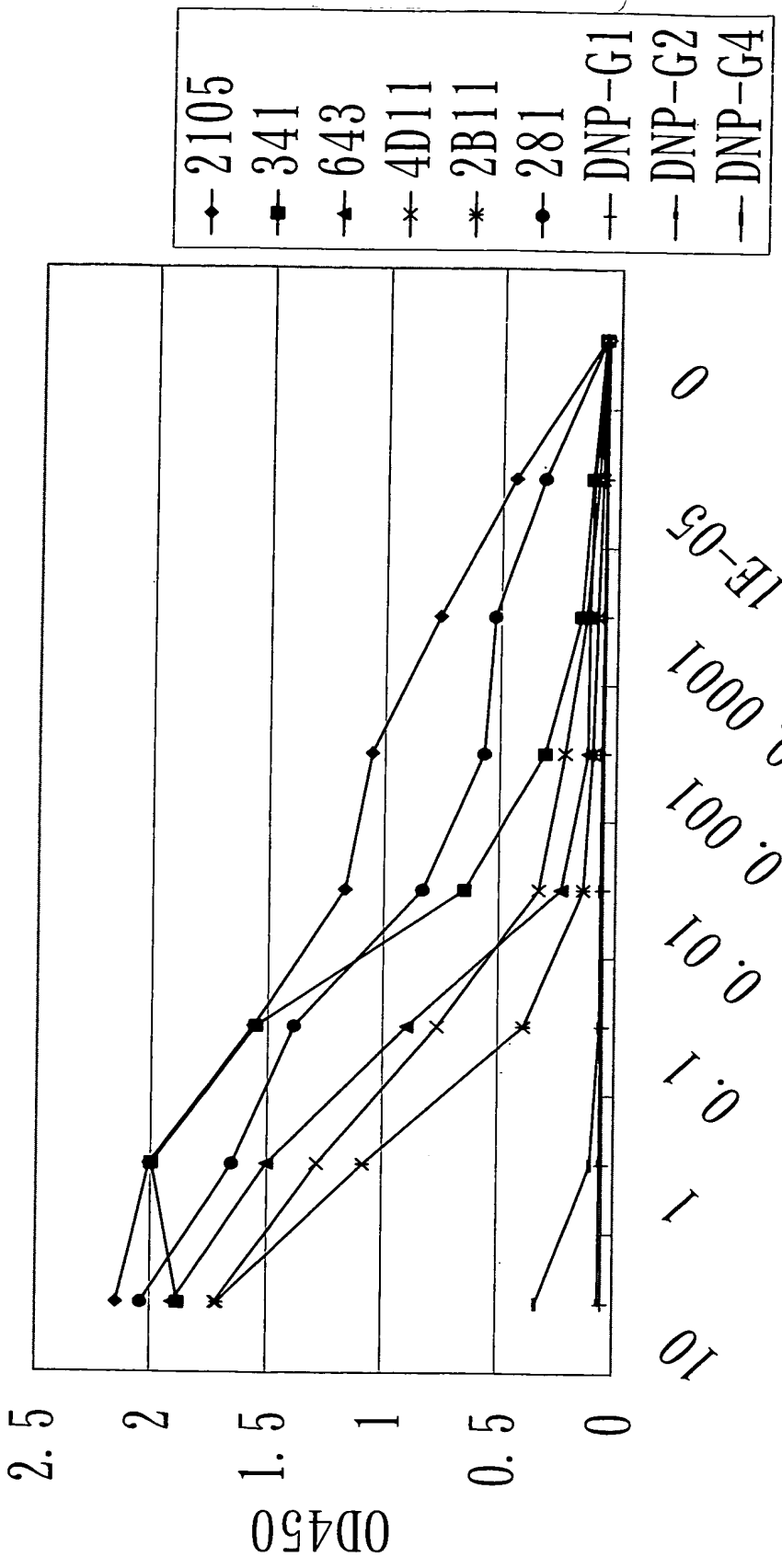
10
1
0.1
0.01
0.001
0.0001
1E-05
0
Antibody concentration (μg/ml)
2105
4D11
2B11
KM341-1-19
KM643-4-11
281
DNP-G1
DNP-G2
DNP-G4

Fig. 2C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2105
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2B11
281
DNP-G1
DNP-G2
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10
1
0.1
0.01
0.001
1E-05
0
Antibody concentration (μg/ml)

Fig. 3A

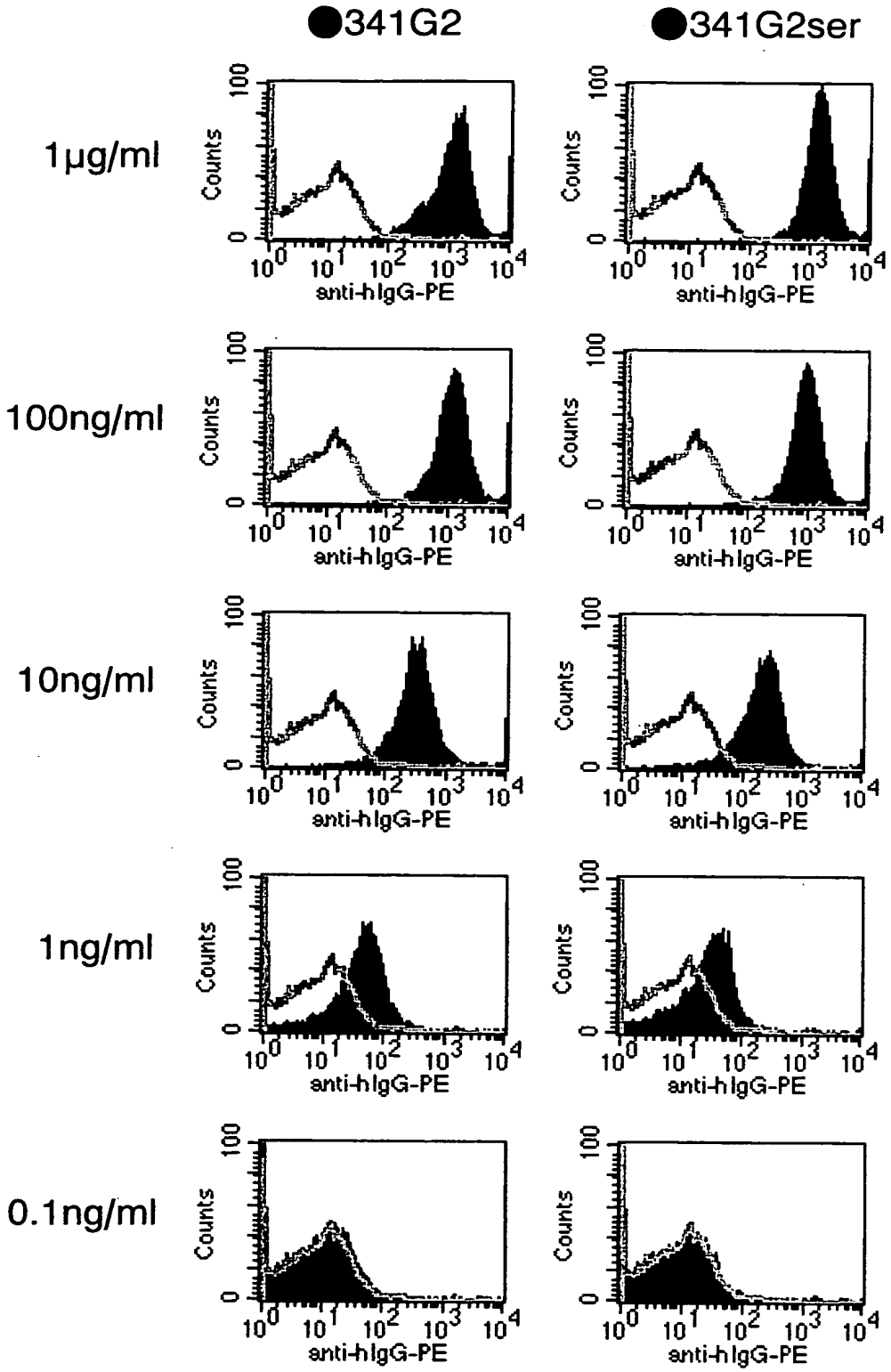


Fig. 3B

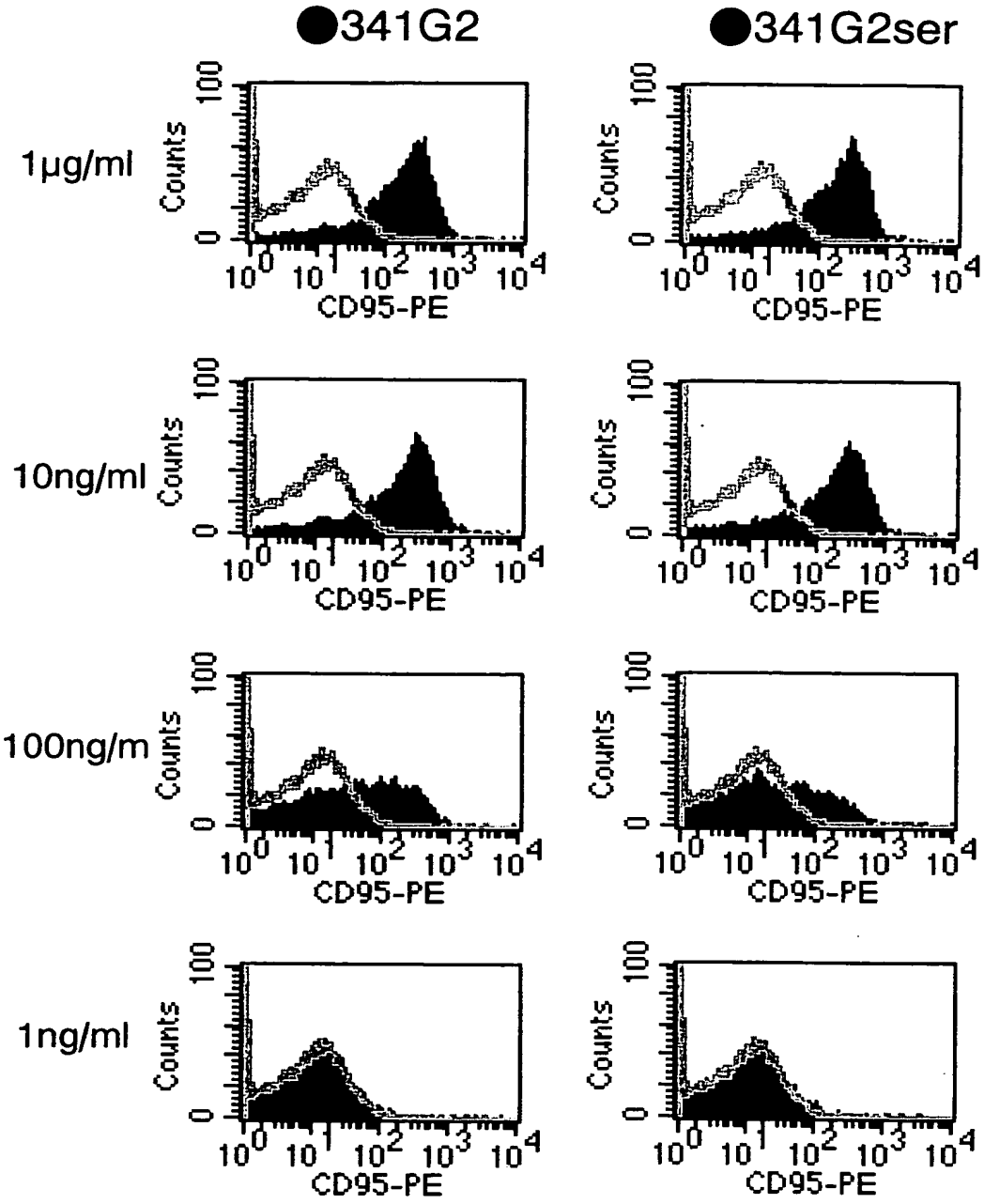
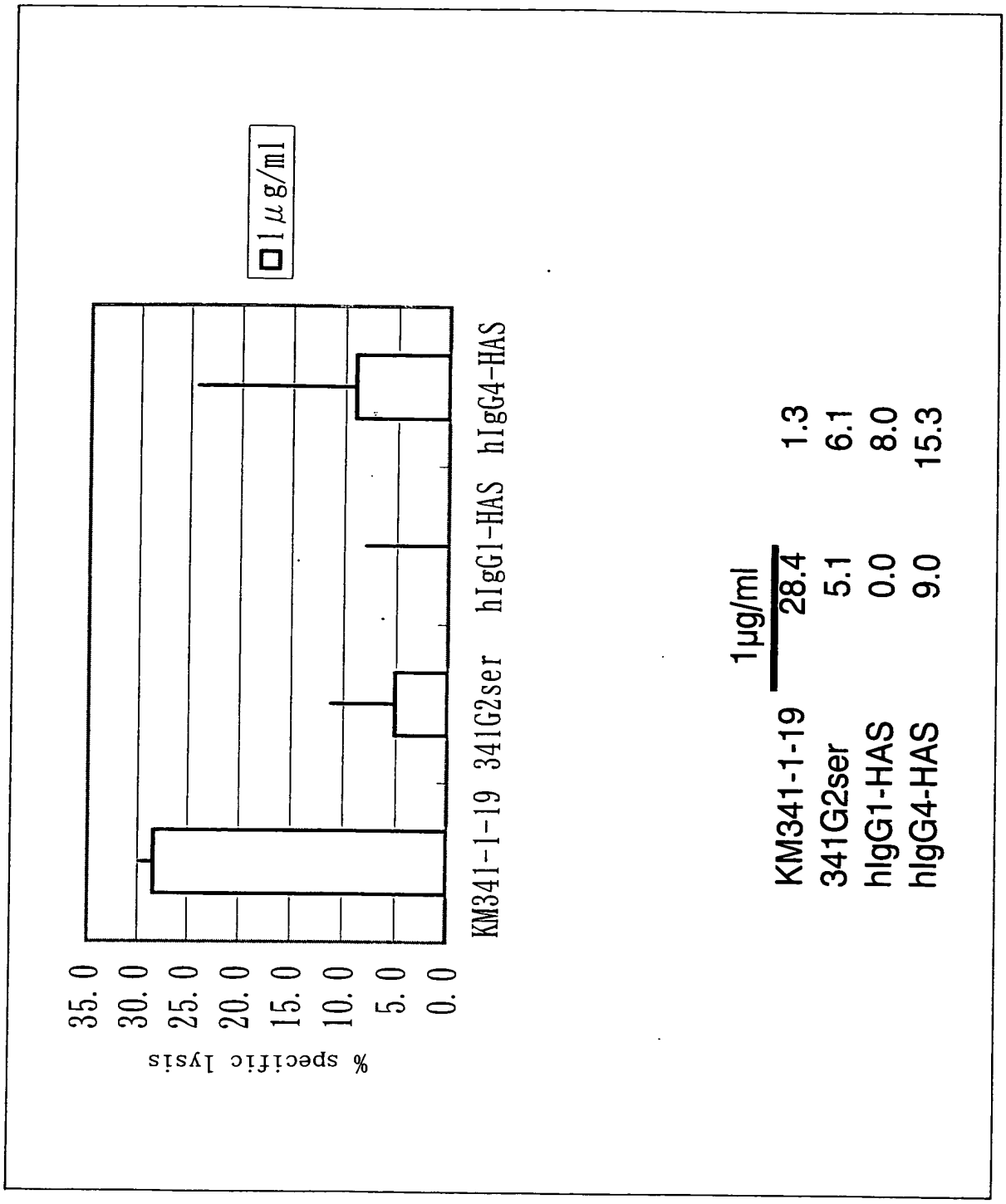


Fig. 4A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30.0
25.0
20.0
15.0
10.0
5.0
0.0
KM341-1-19
341G2ser
hIgG1-HAS
hIgG4-HAS
1μg/ml
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1.3
6.1
8.0
15.3

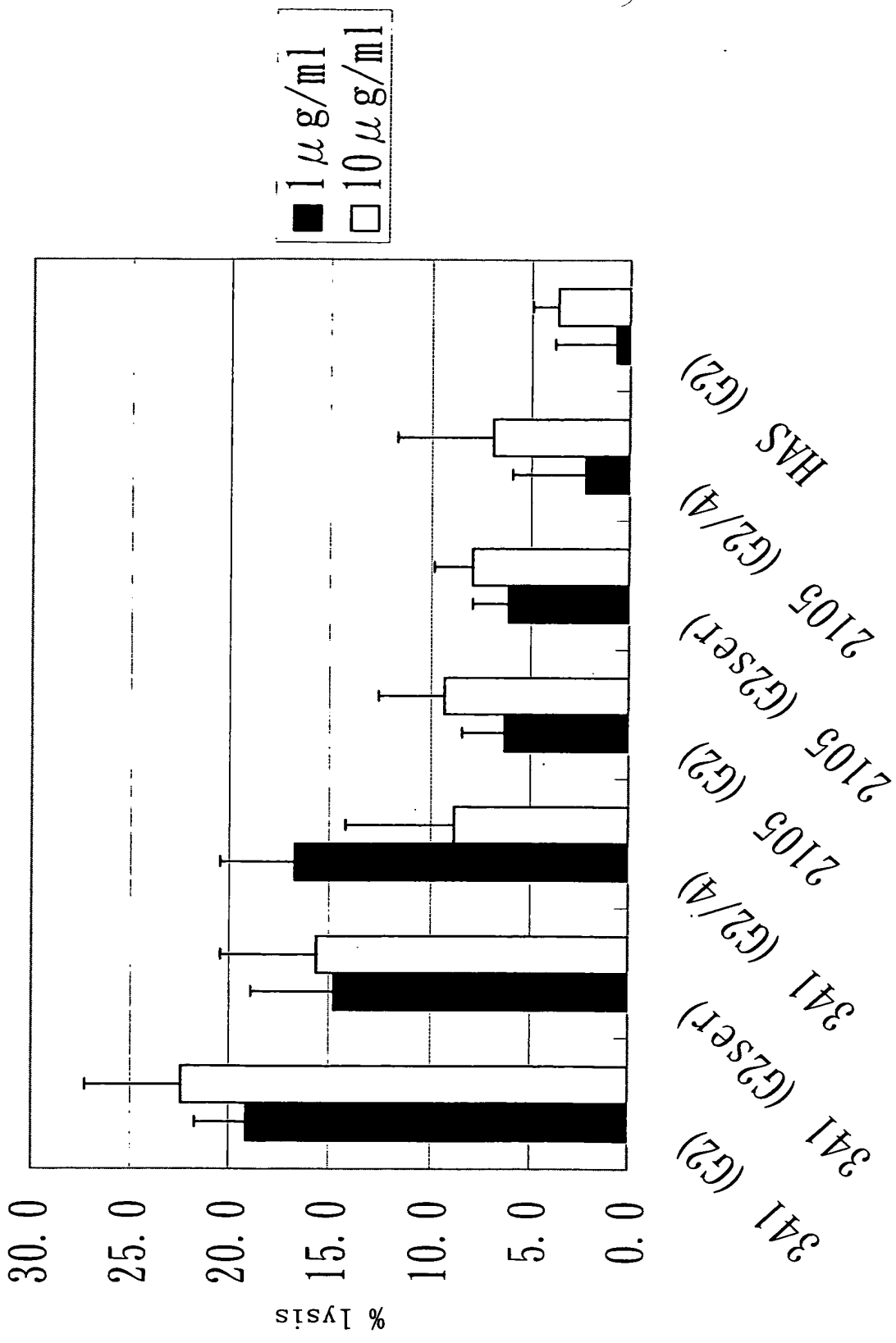
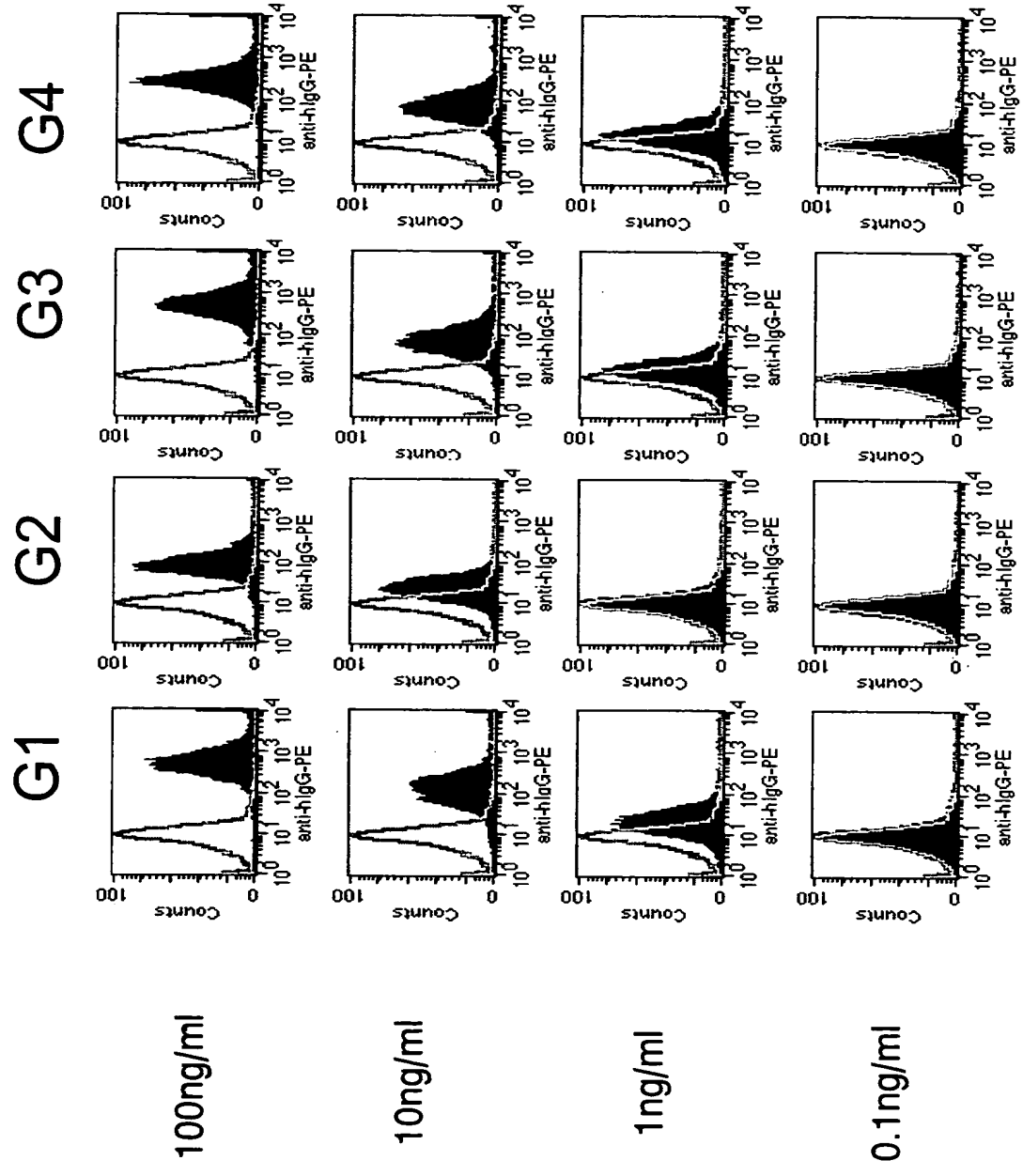


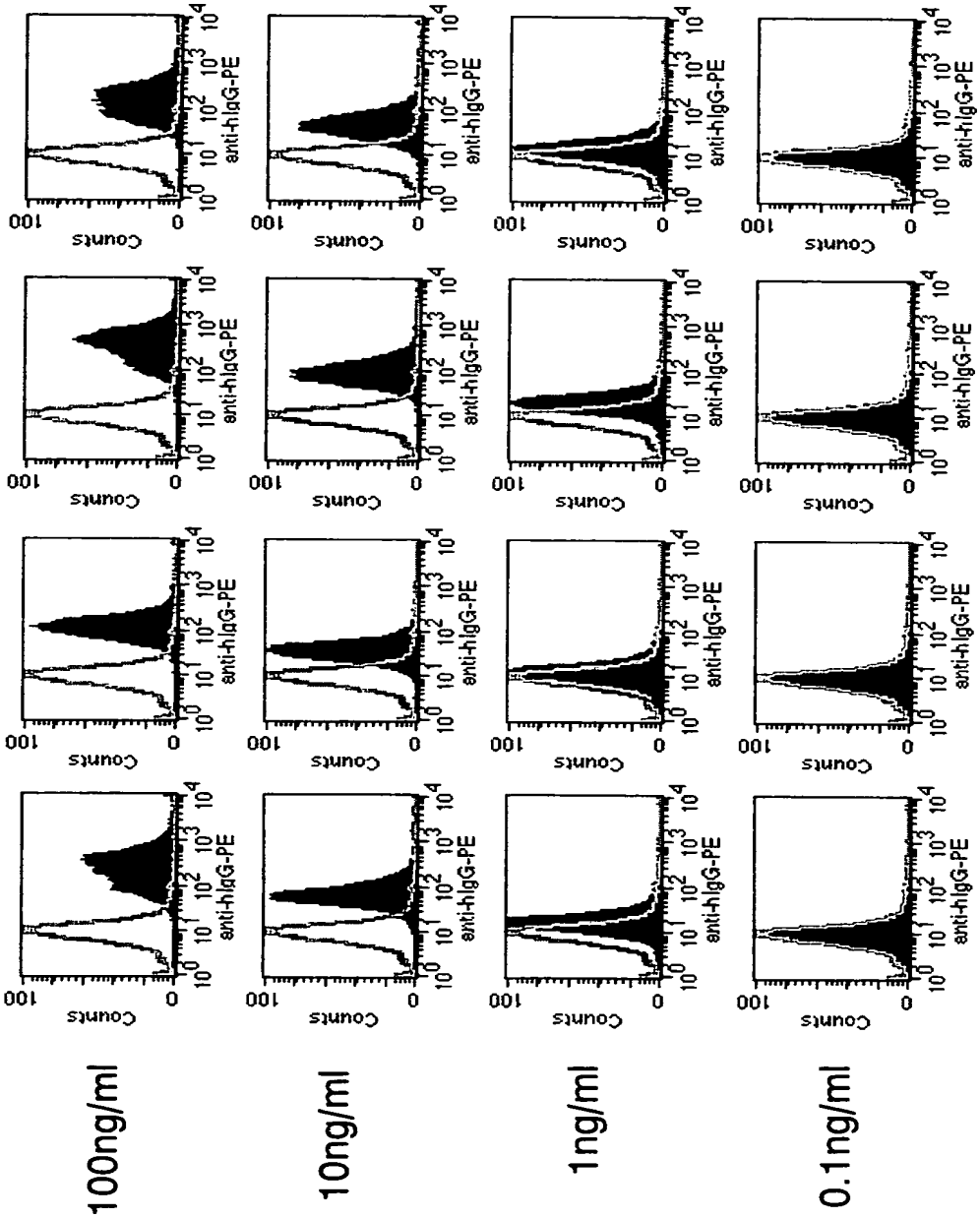
Fig. 4B

Fig. 5A-1 [2105]



[341]

Fig. 5A-2



[2105]

Fig. 5B-1

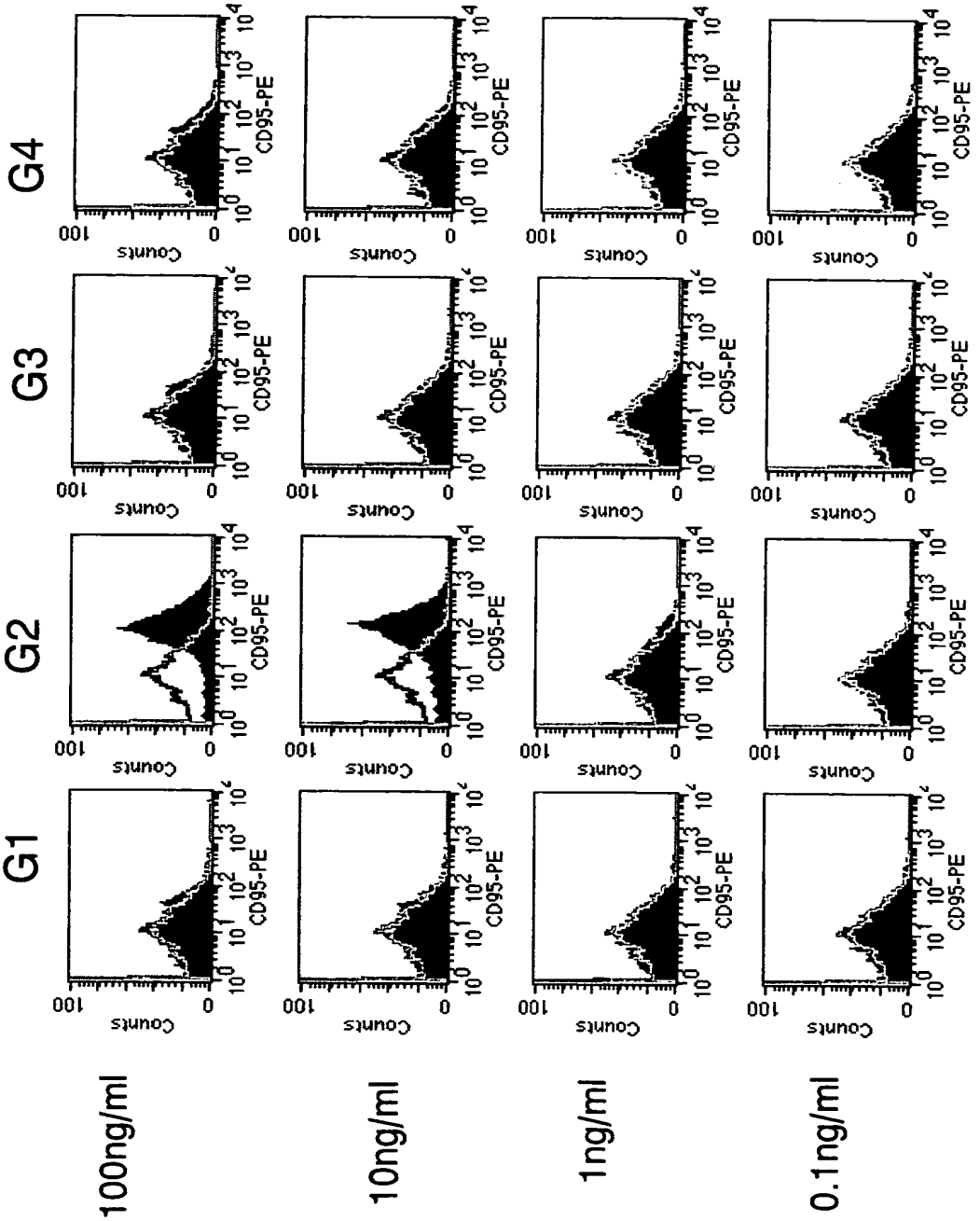


Fig. 5B-2

[341]

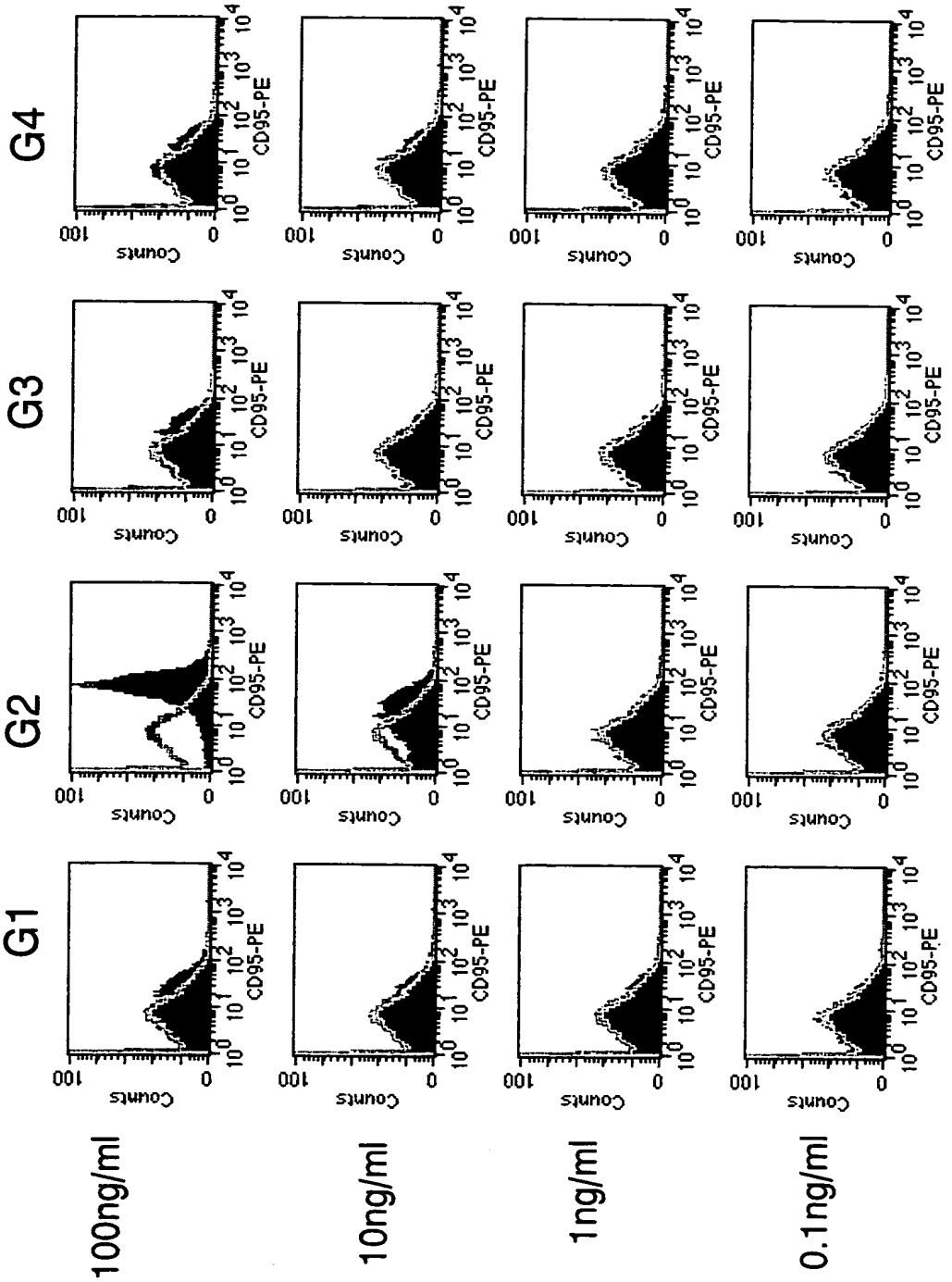


Fig. 6A-1

[341]

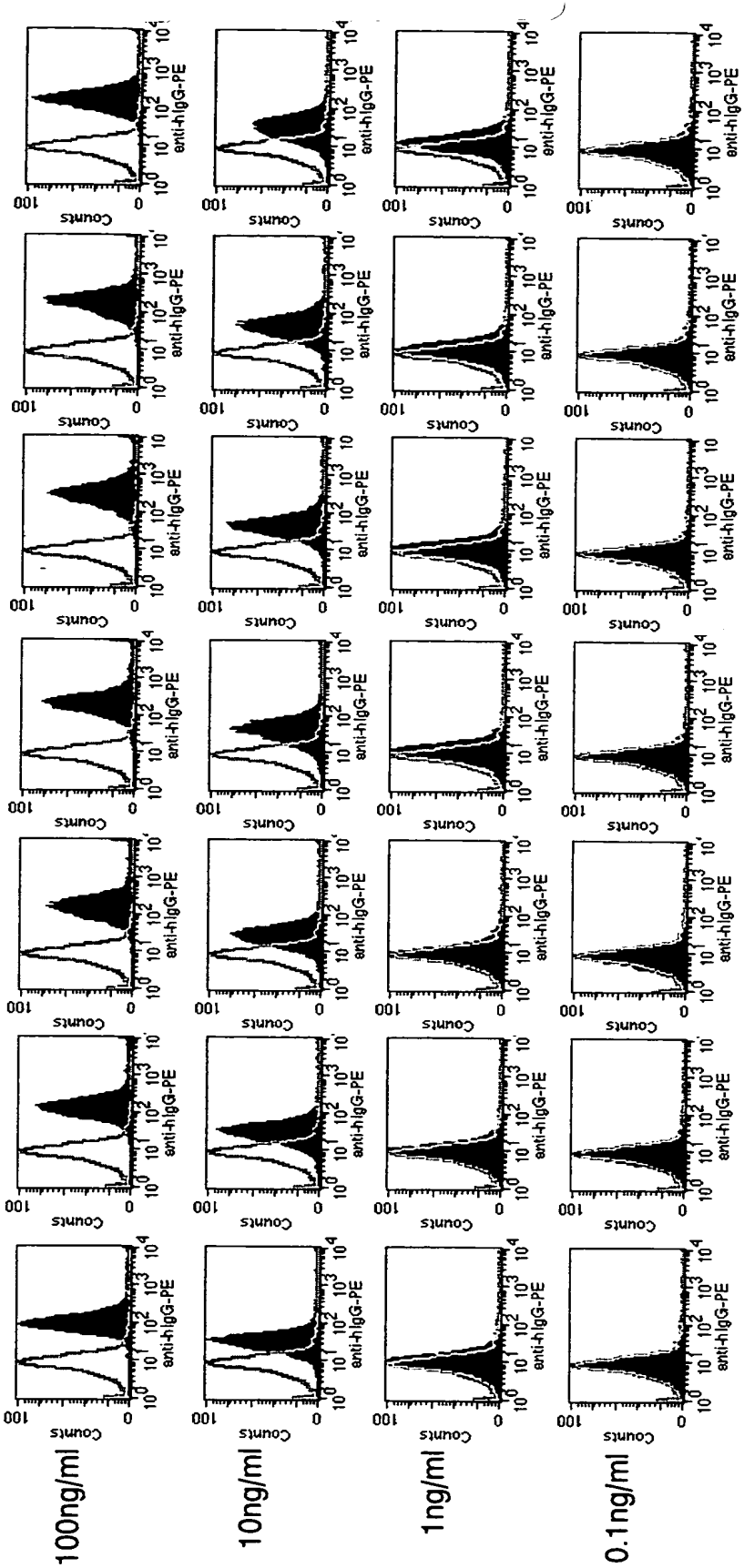


Fig. 6A-2

[2105]

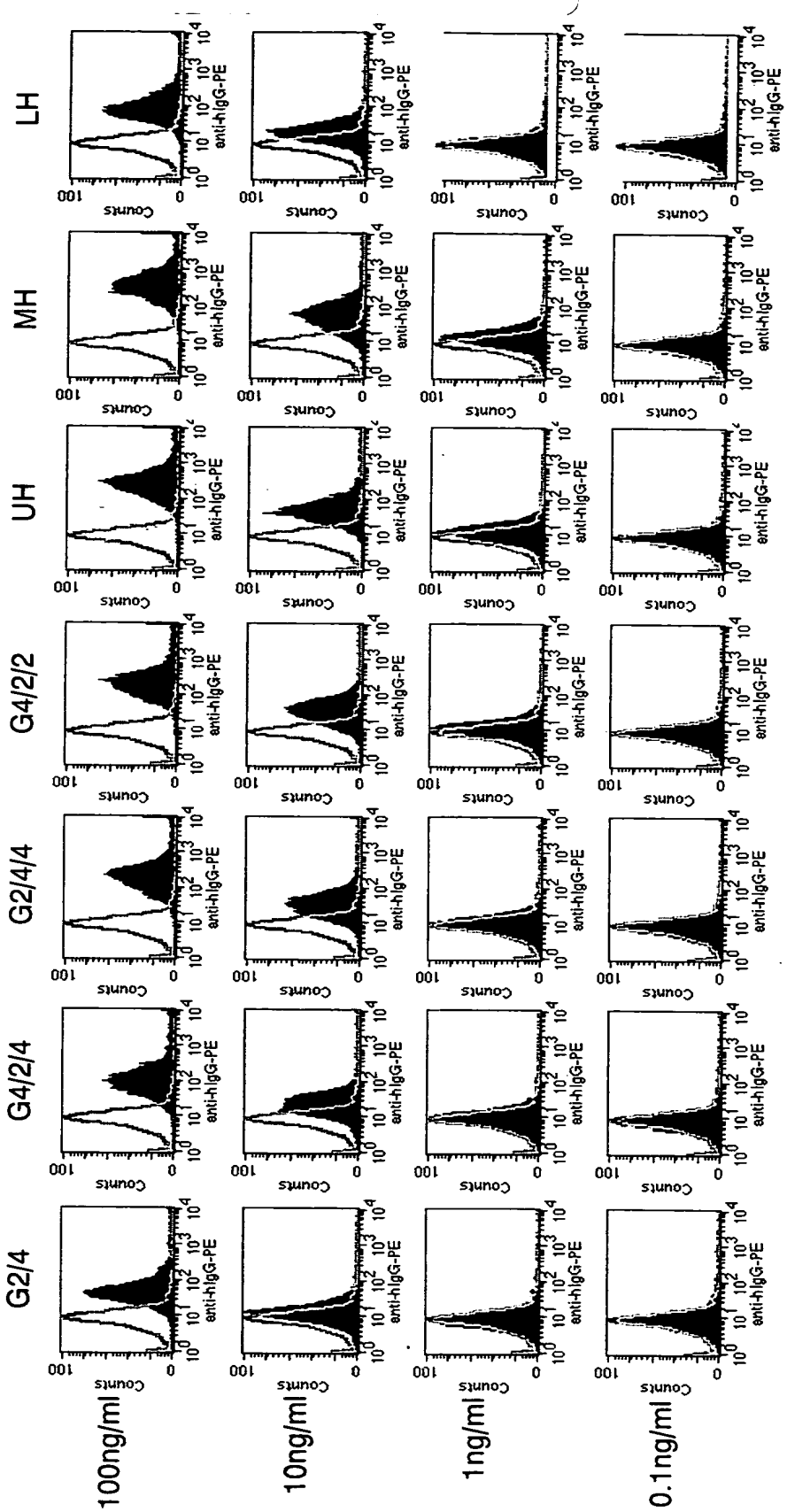


Fig. 6B-1

[341]

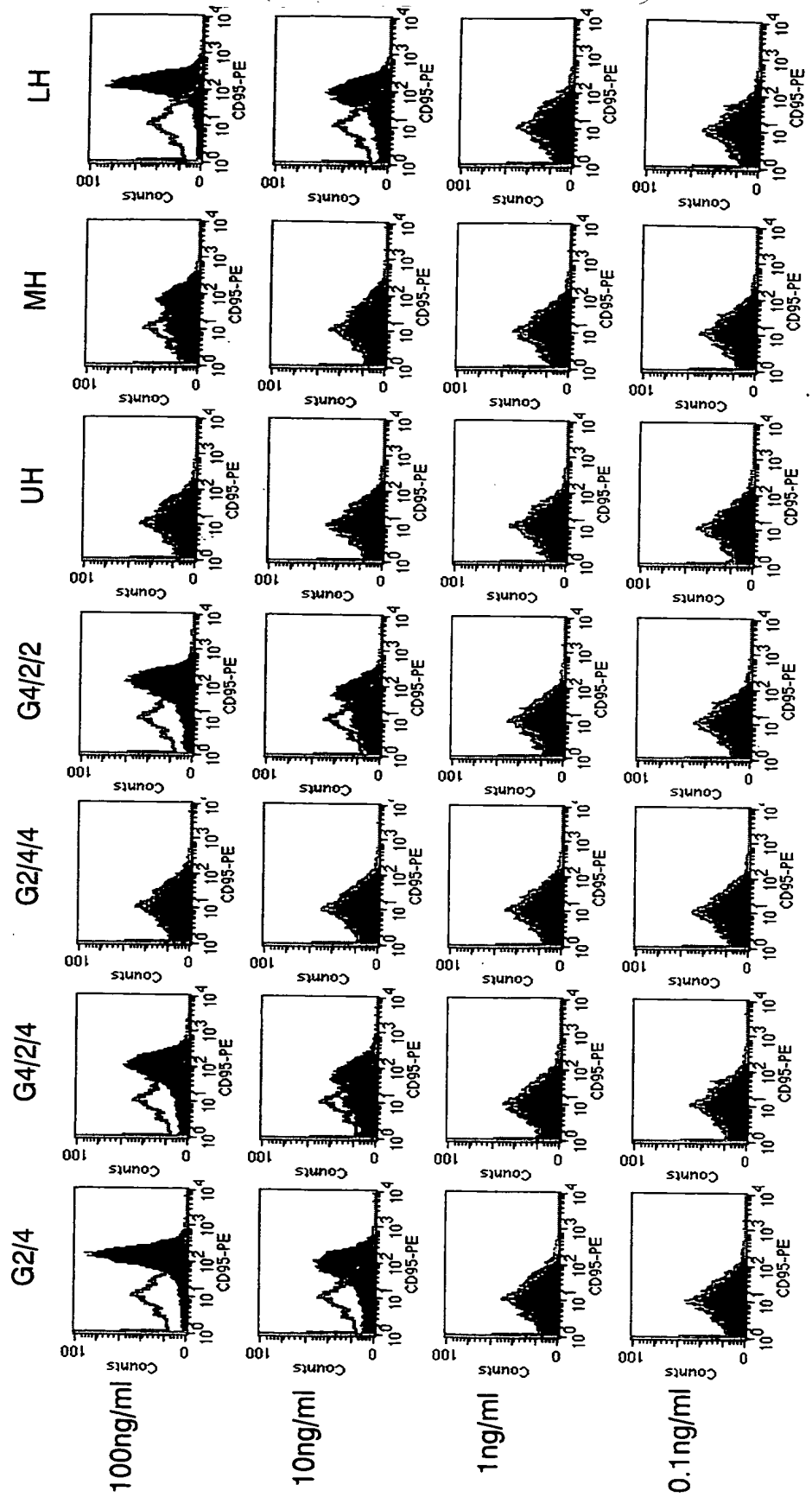


Fig. 6B-2

[2105]

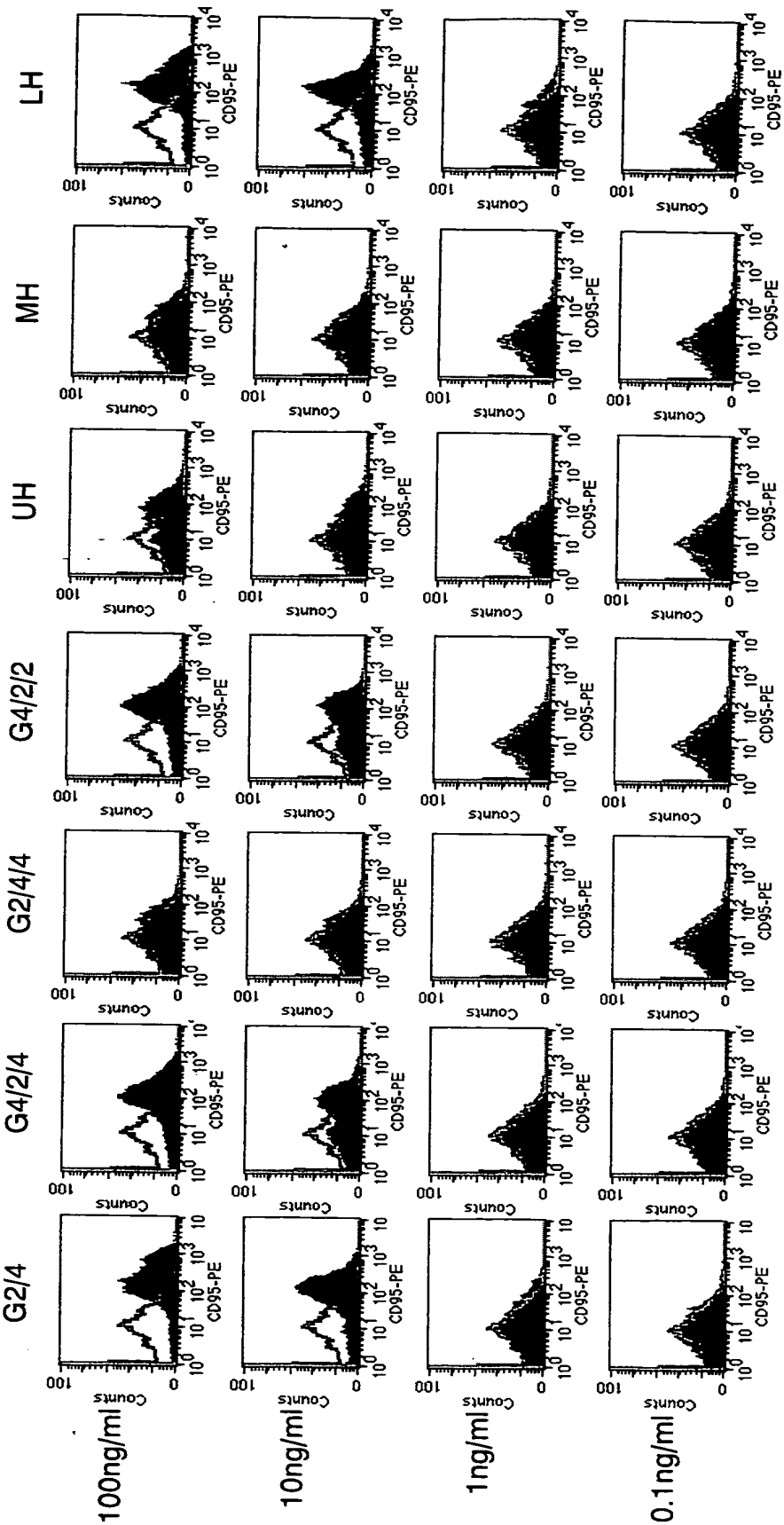


Fig. 7A

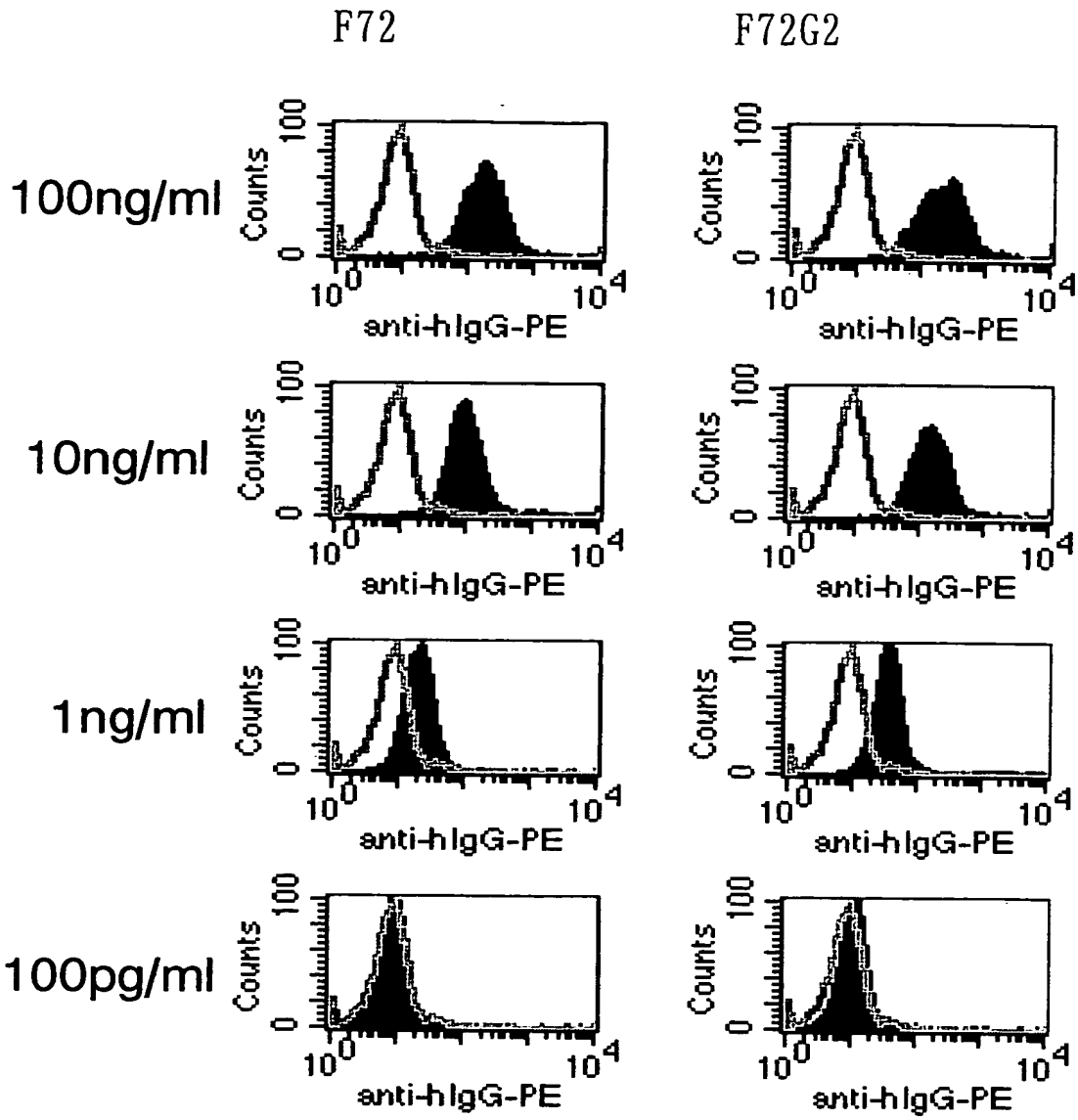


Fig. 7B

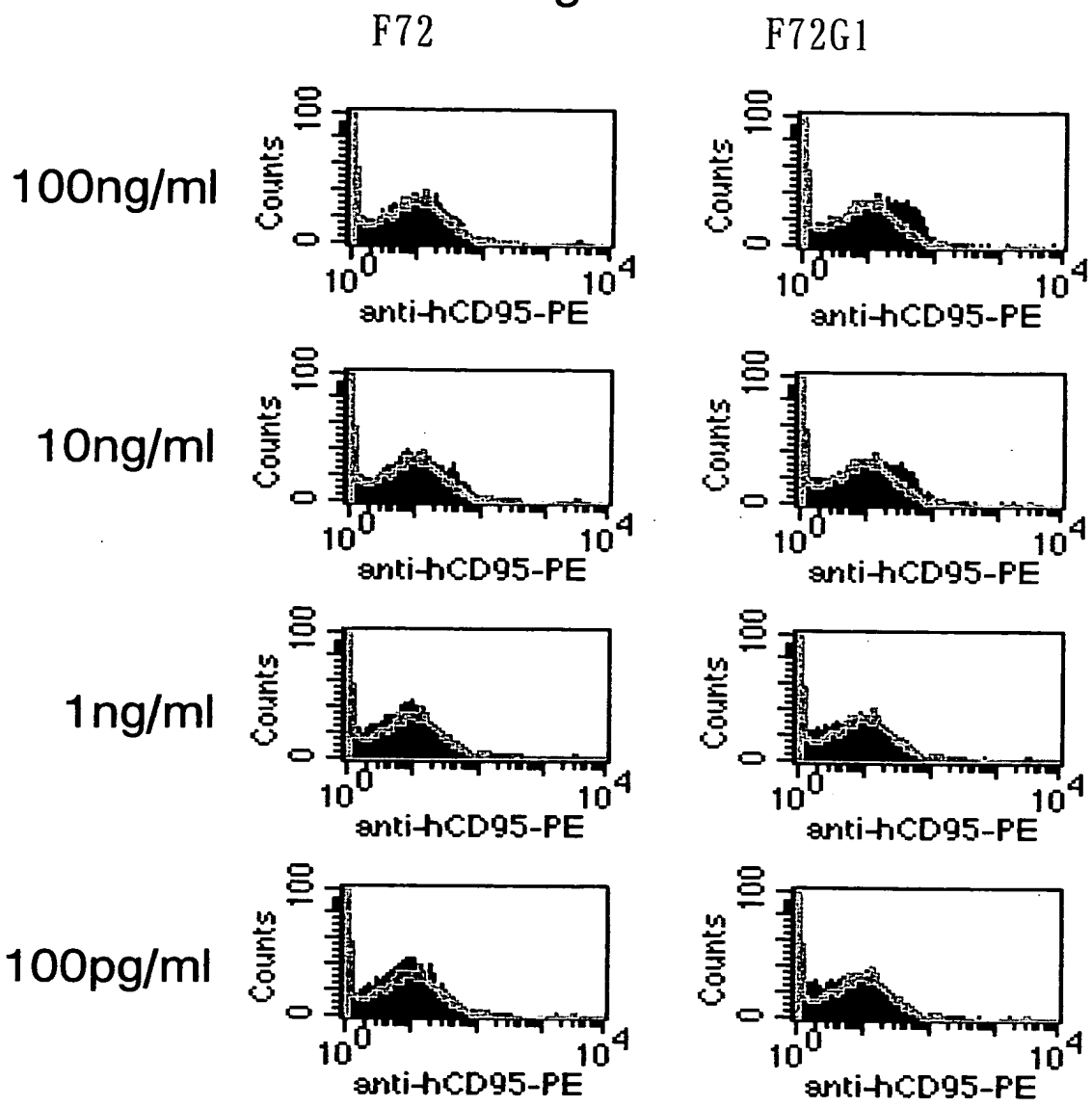


Fig. 8A

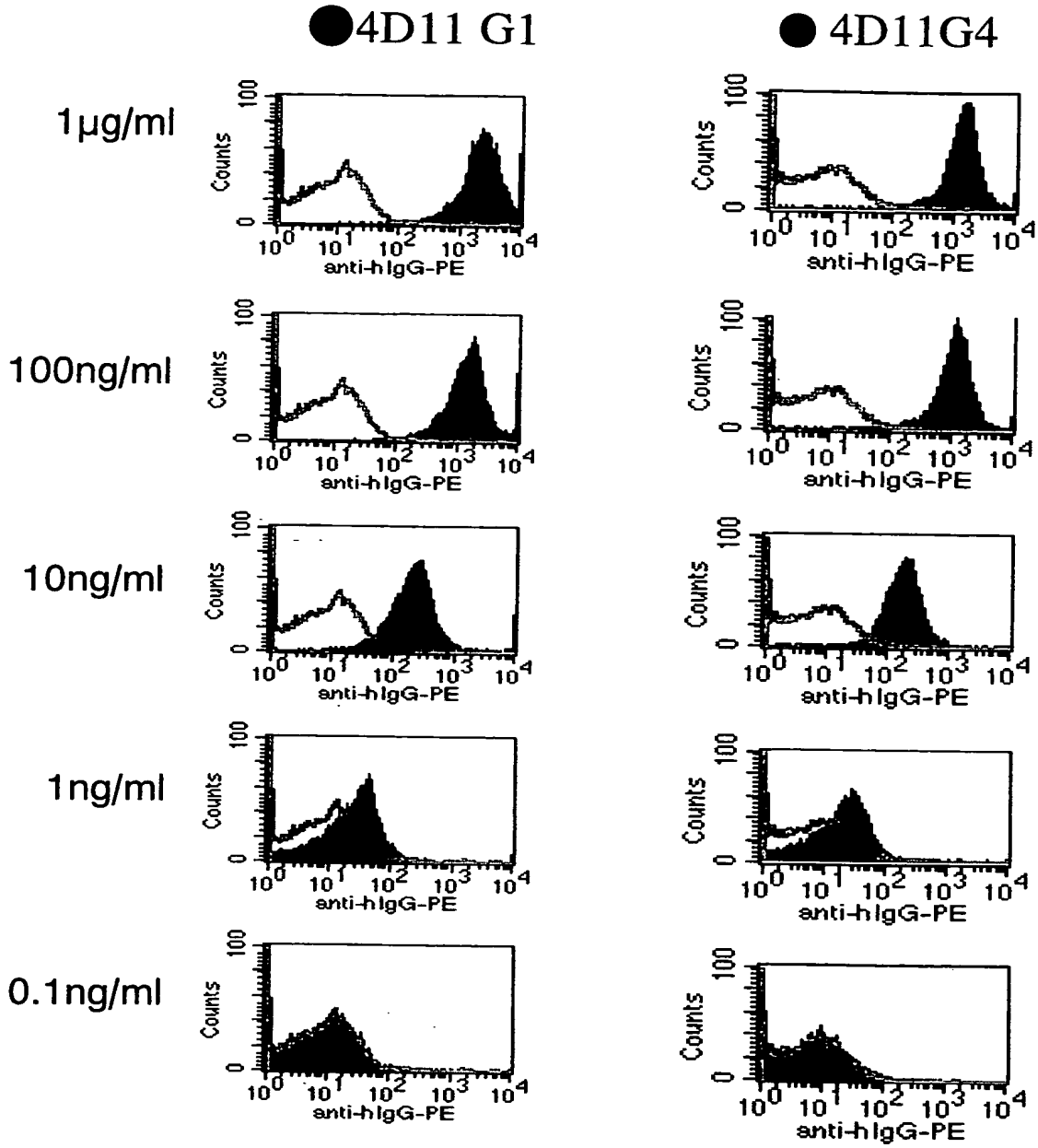


Fig. 8B

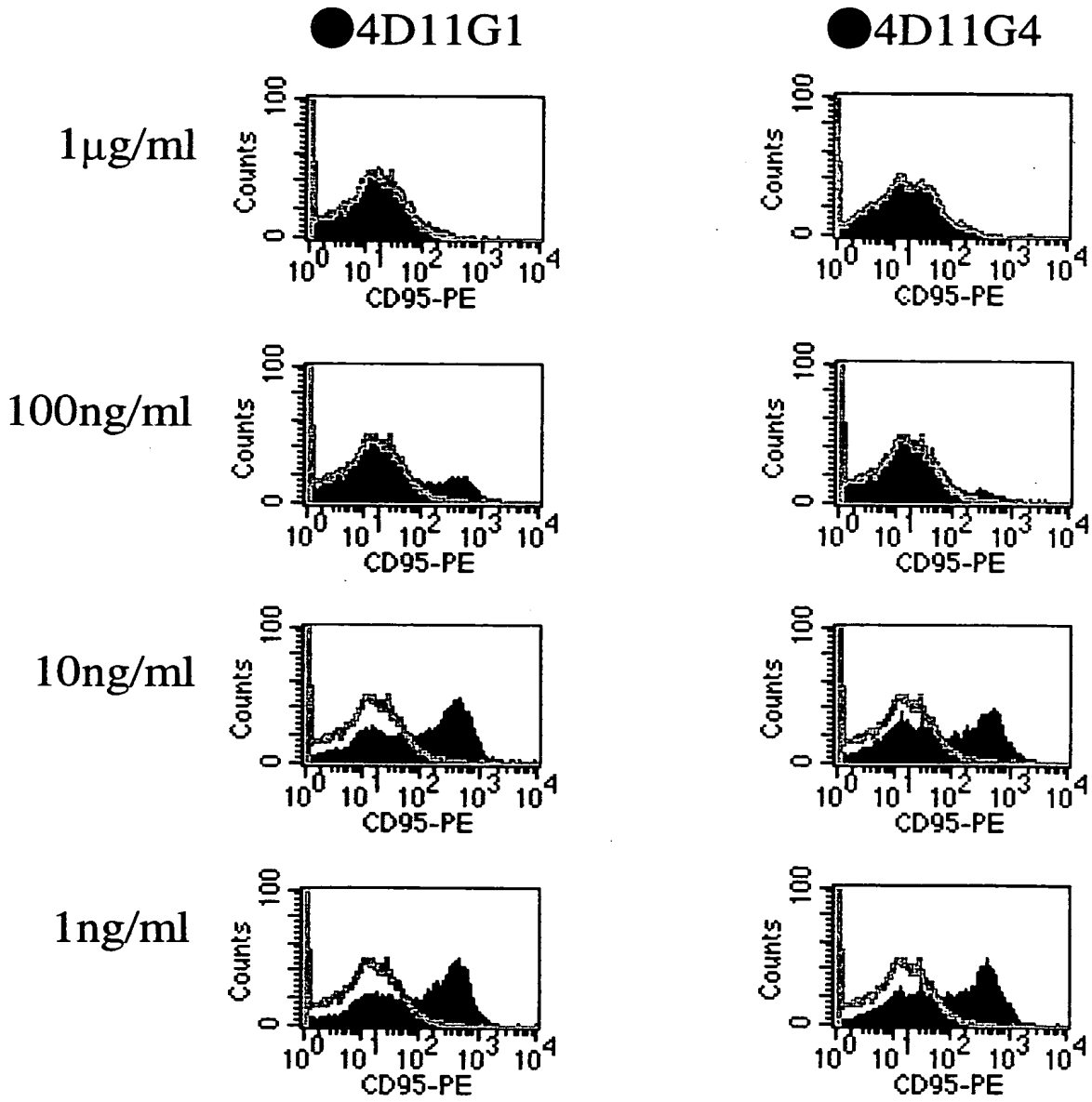
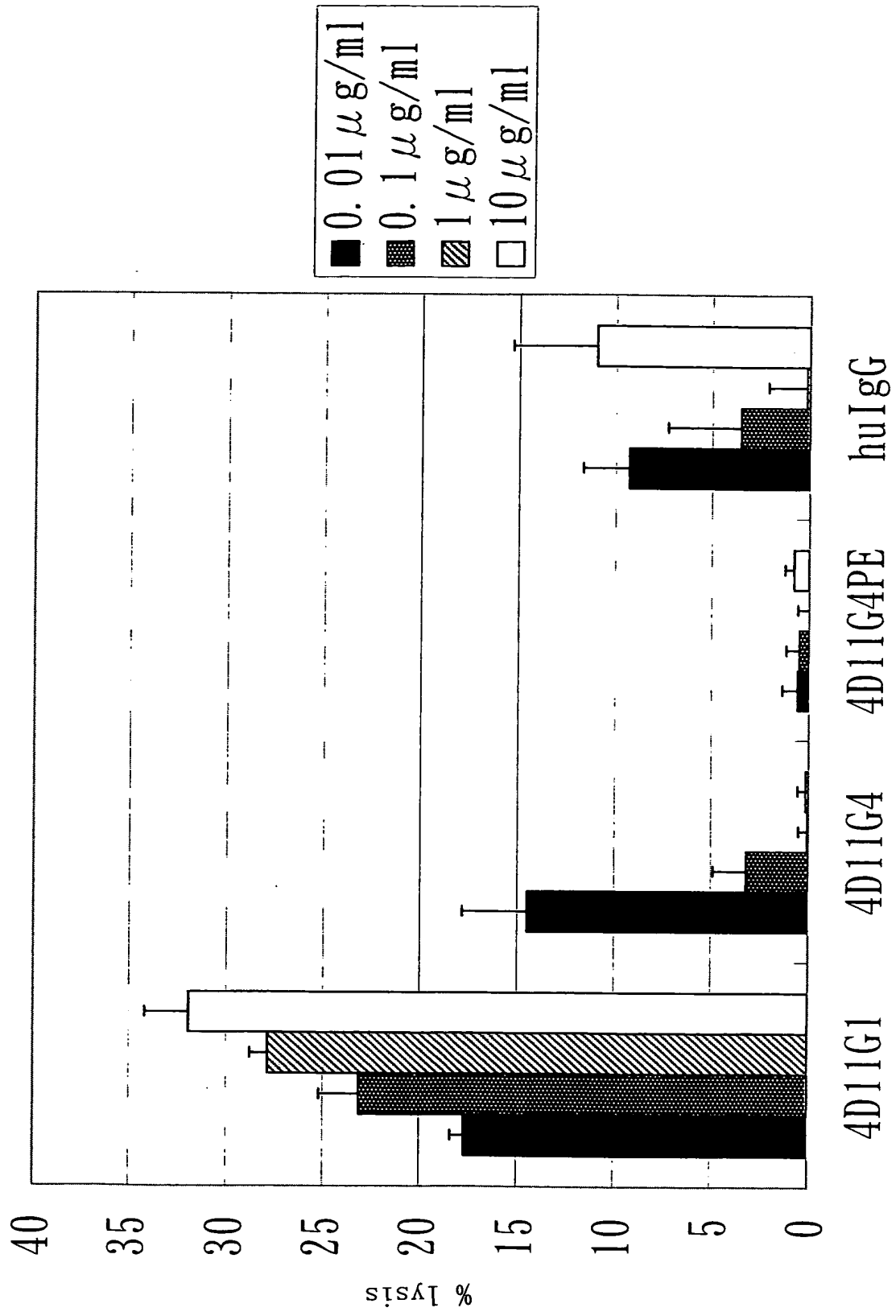


Fig. 9



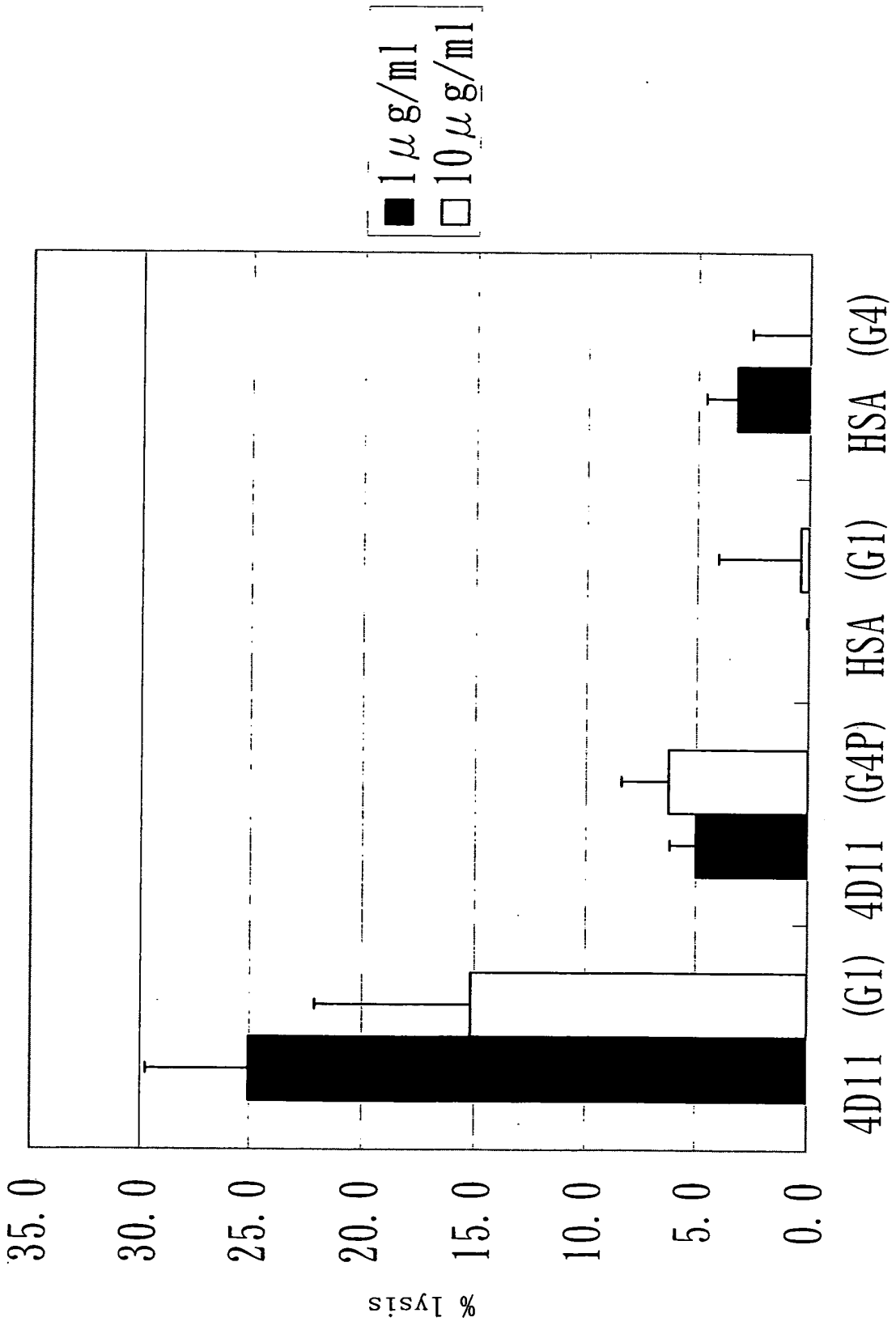


Fig. 10

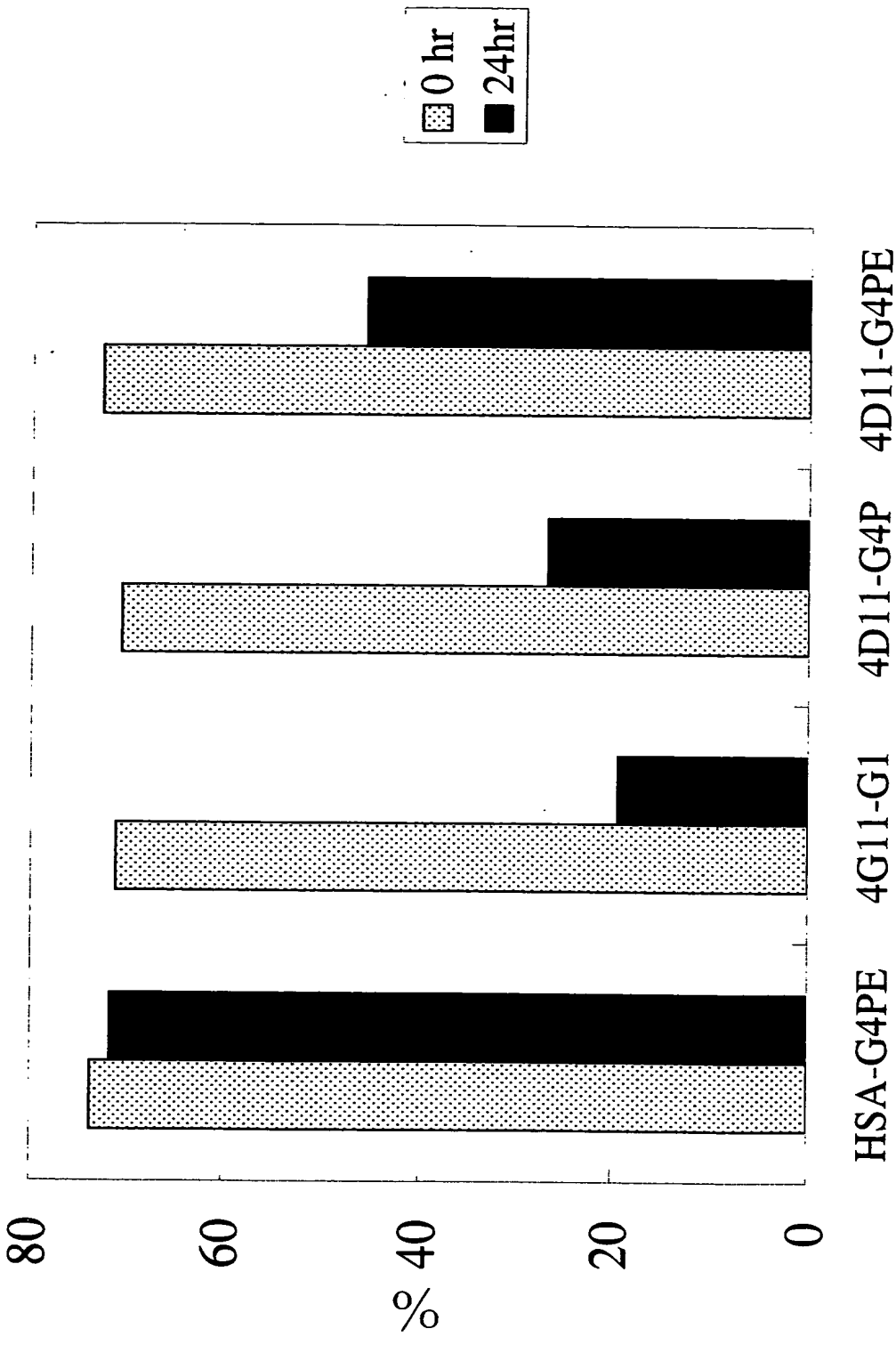


Fig. 11

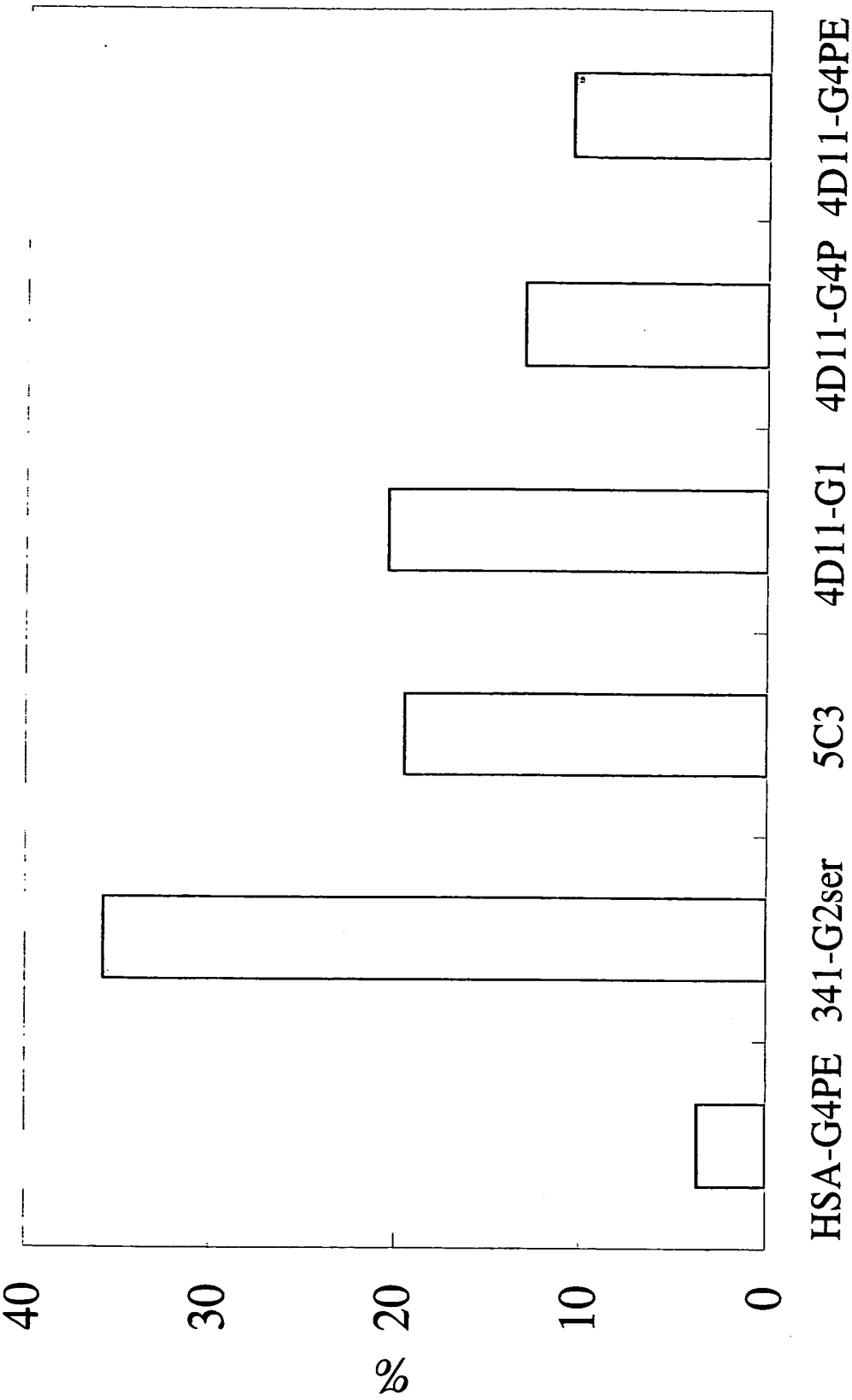


Fig. 12A

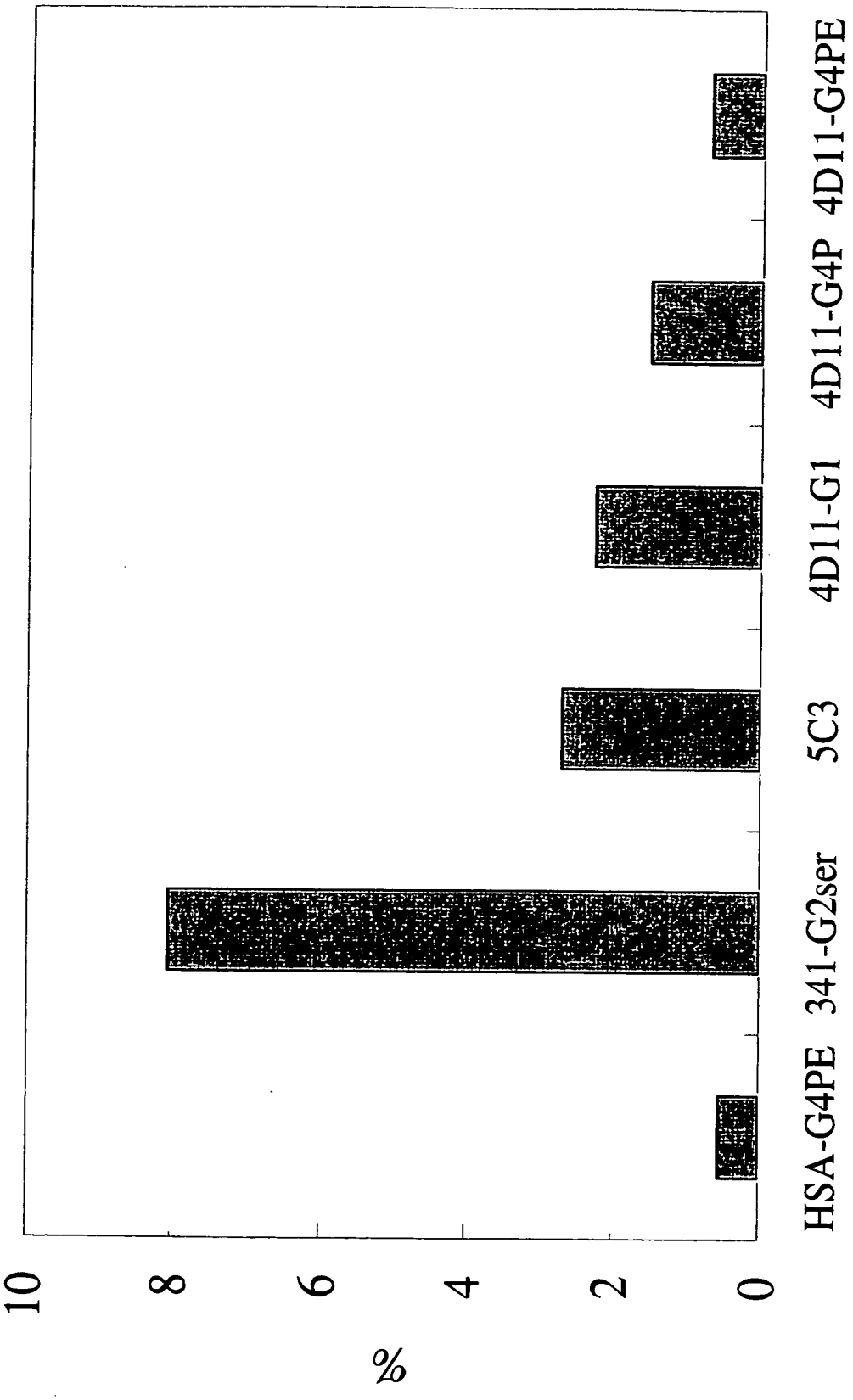


Fig. 12B

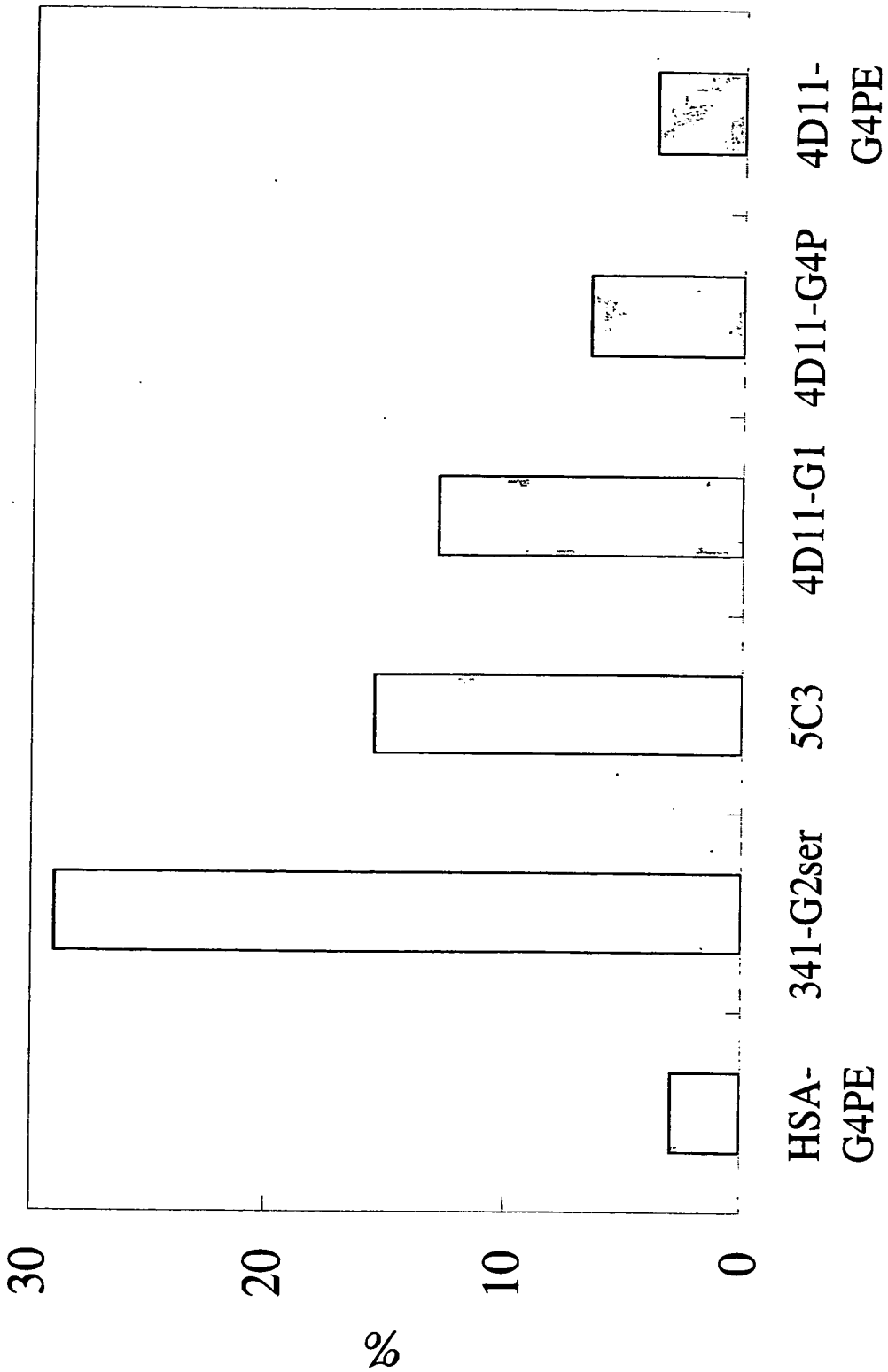


Fig. 12C

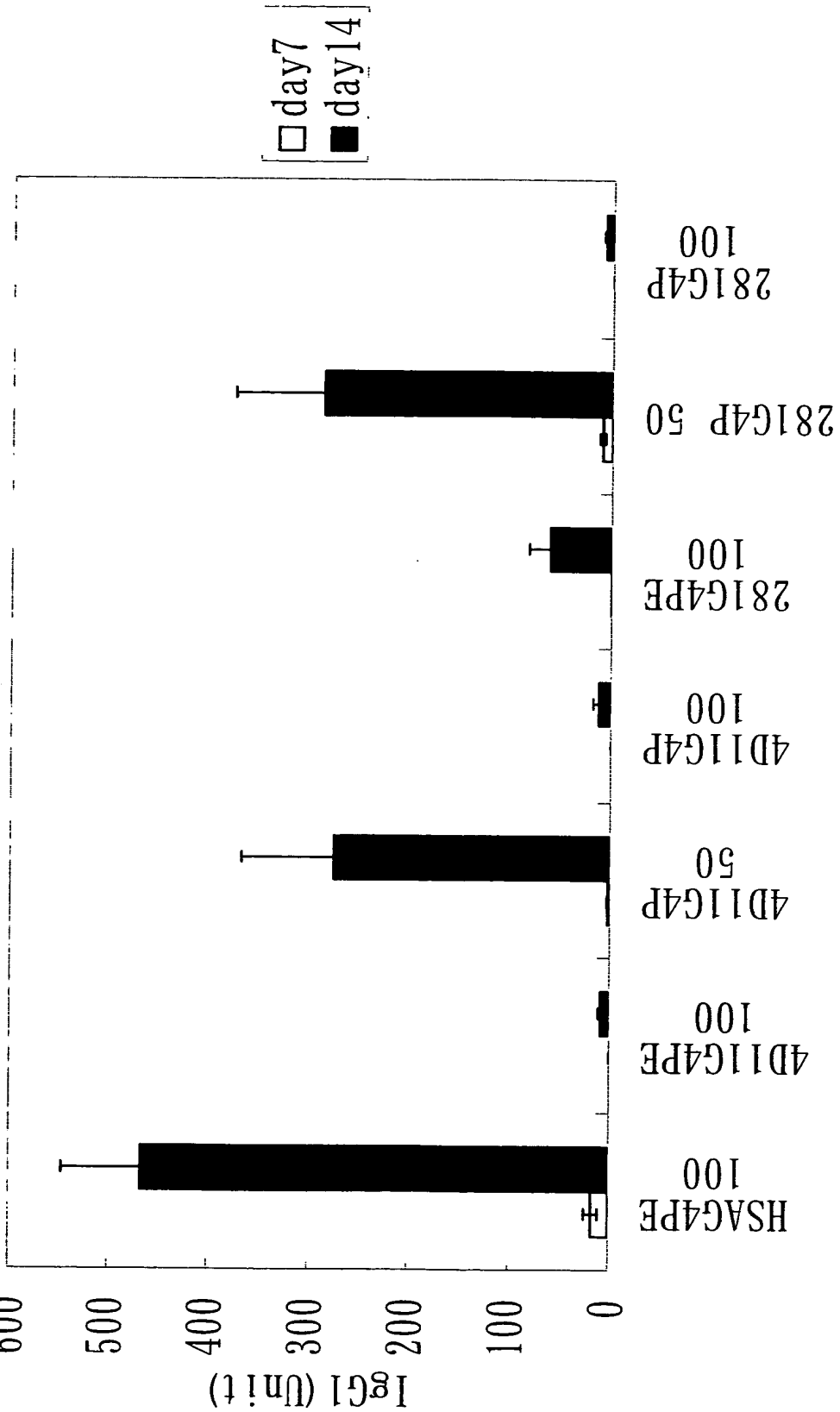


Fig. 13A

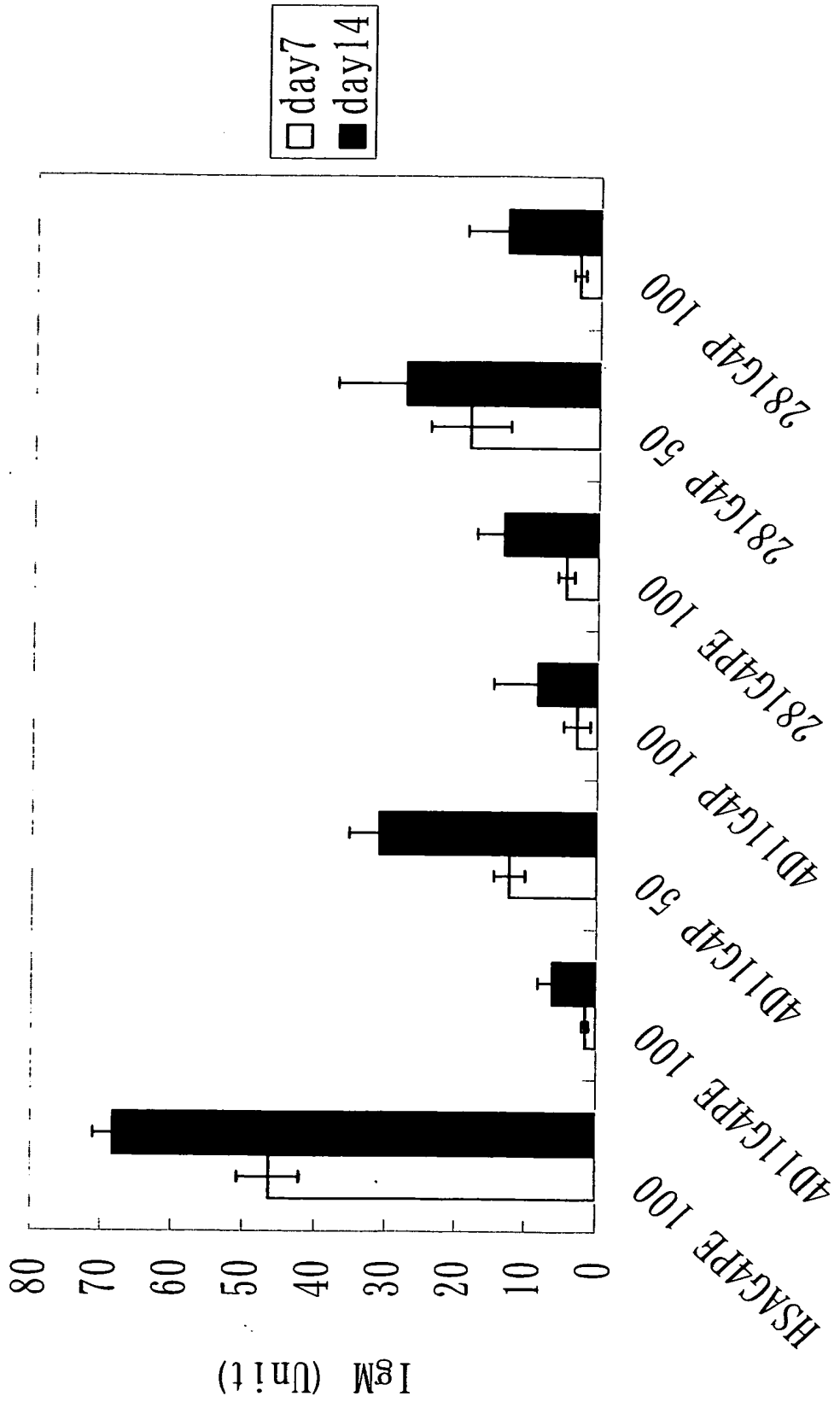


Fig. 13B

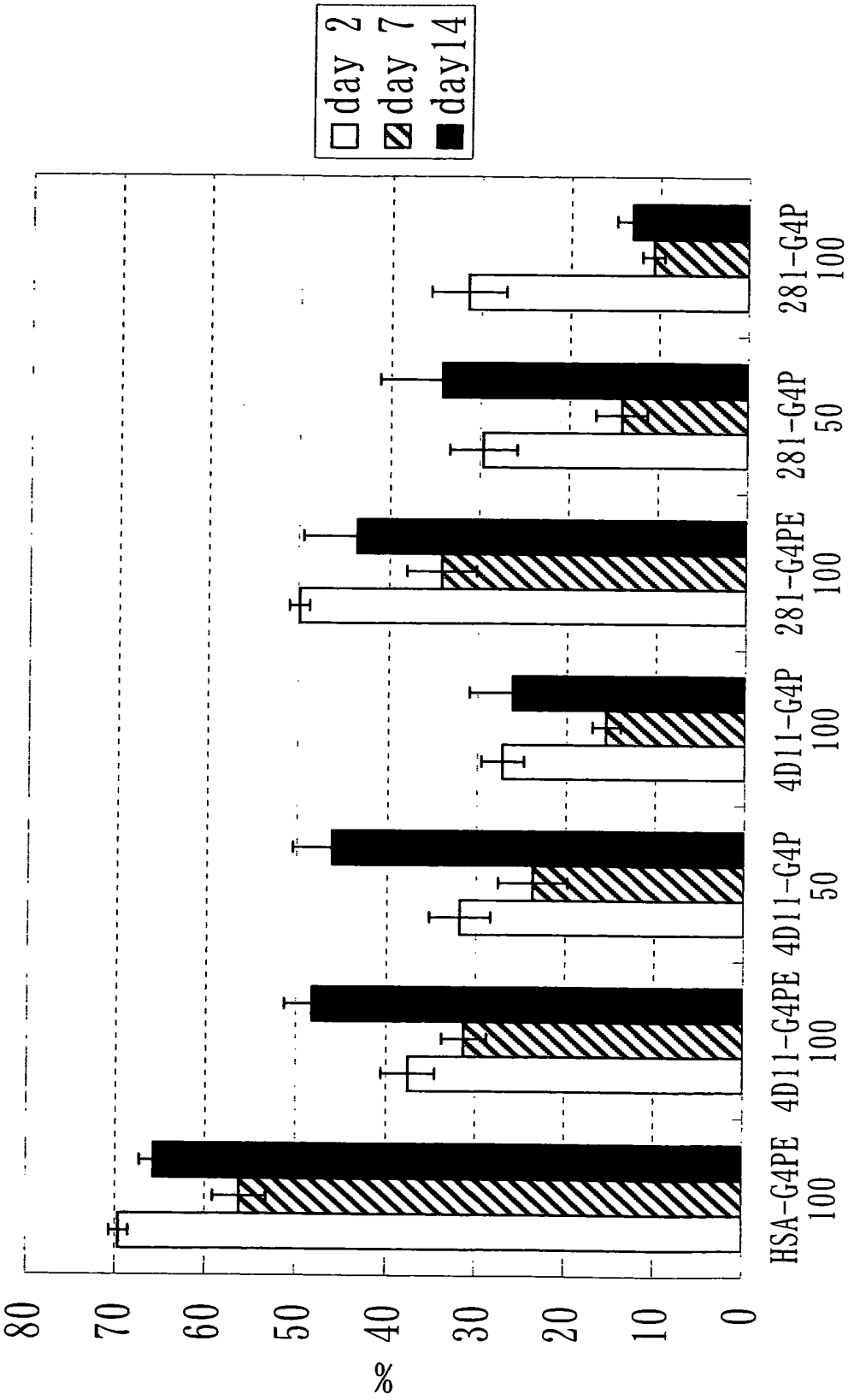


Fig. 14A

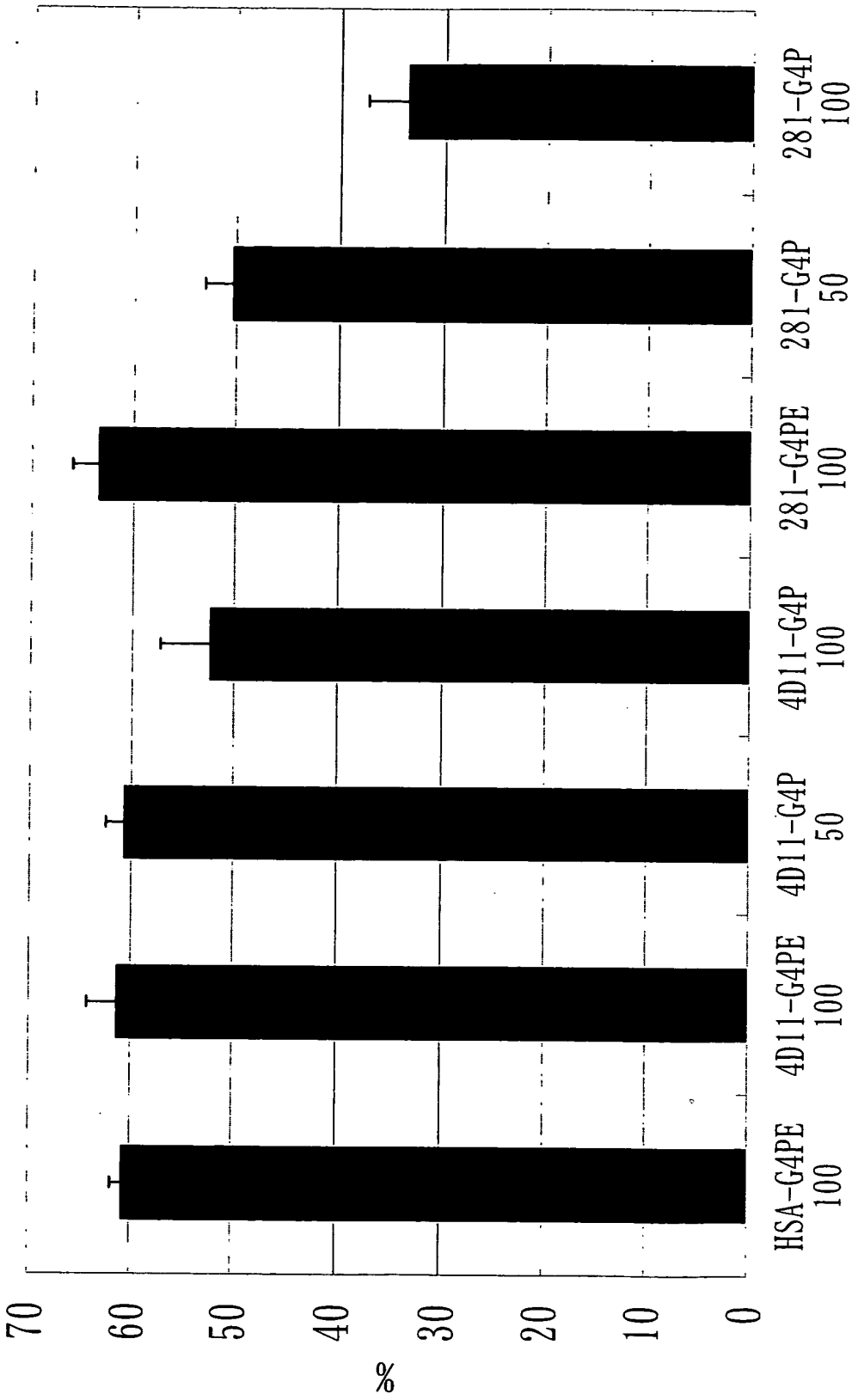


Fig. 14B

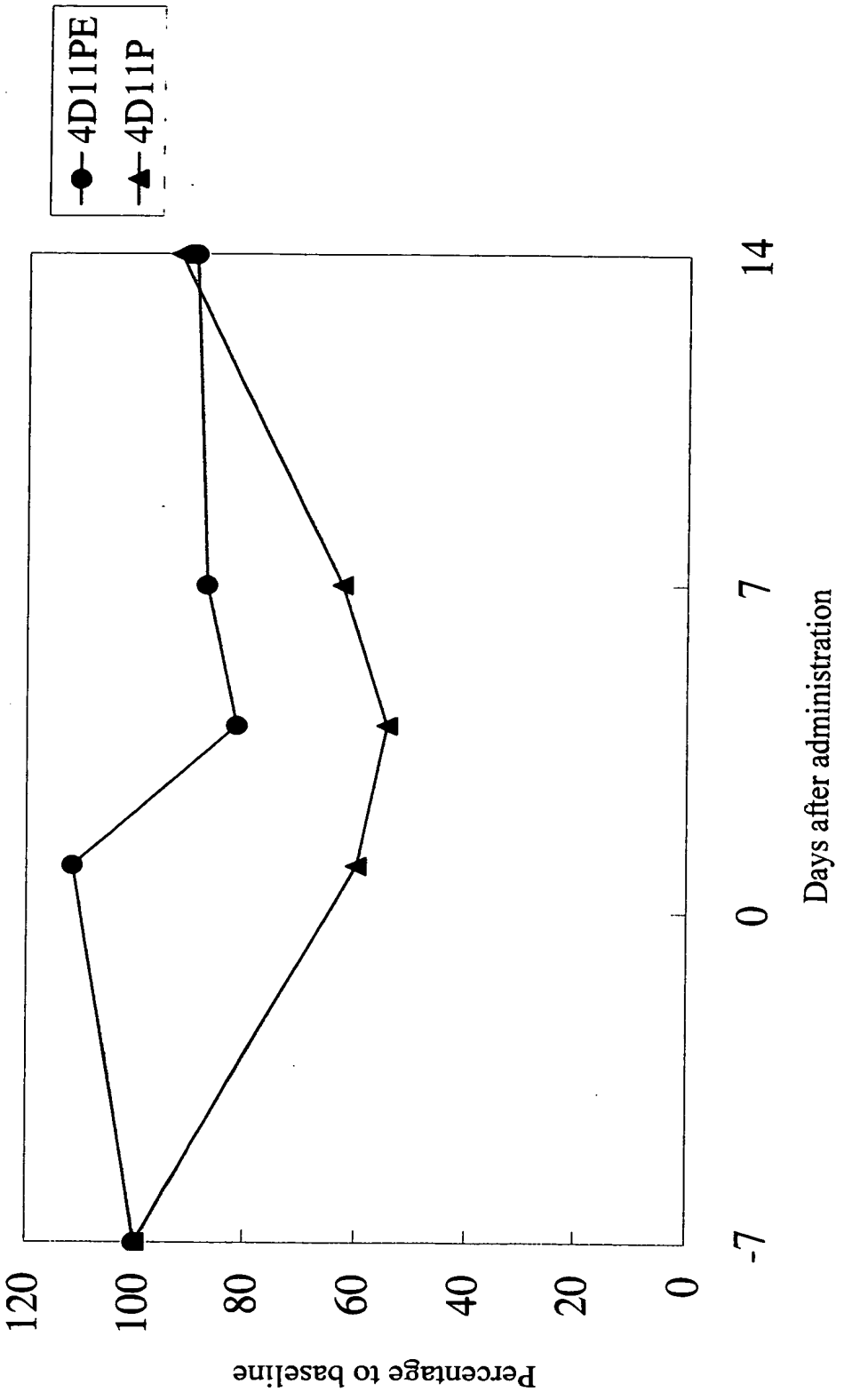

4D11PE
4D11P
120
100
80
60
40
20
0
Percentage to baseline
-7
0
7
14
Days after administration

Fig. 15

Fig. 16

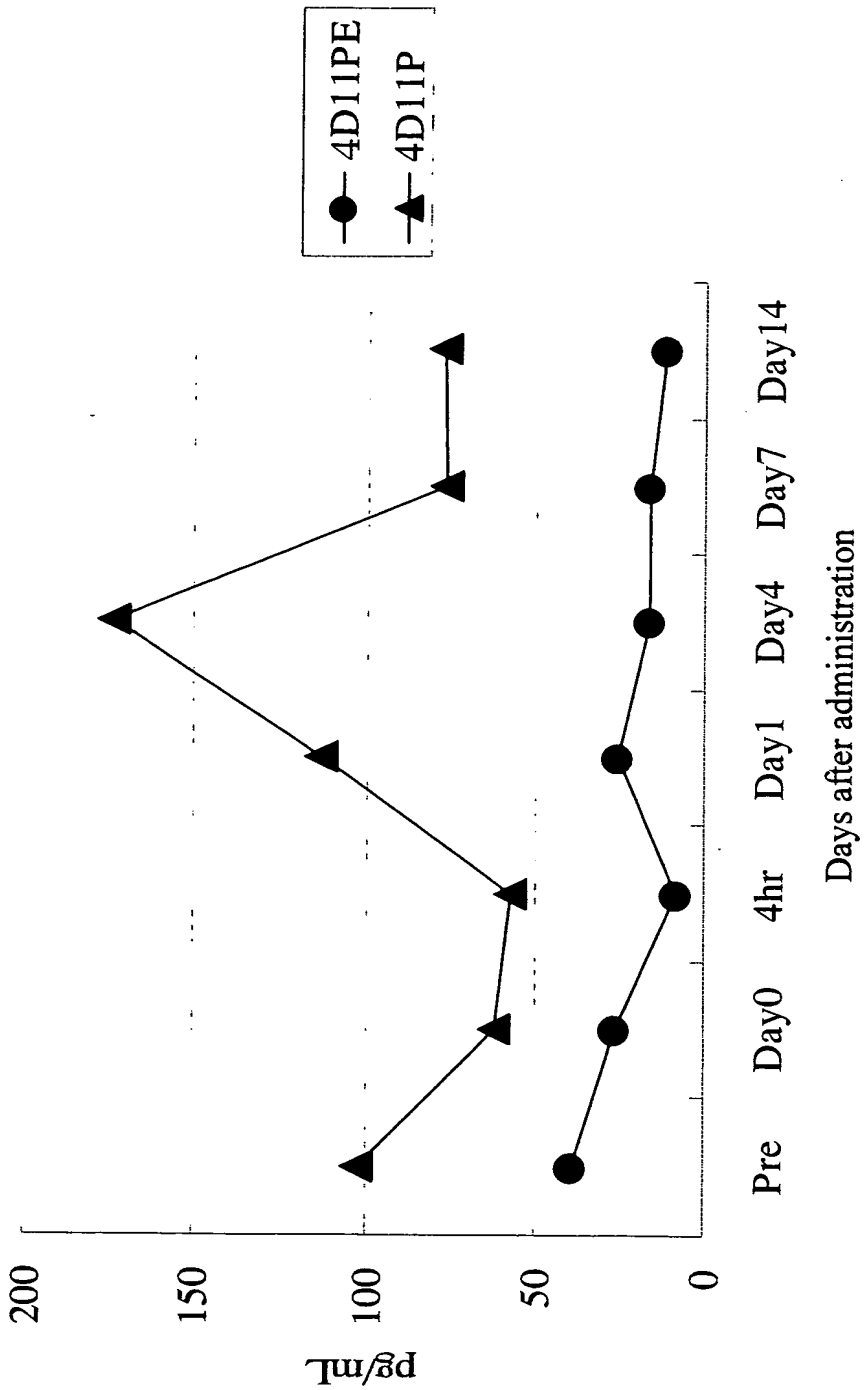

4D11PE
4D11P
200
150
100
50
0
pg/mL
Pre
Day0
4hr
Day1
Day4
Day7
Day14
Days after administration

Fig. 17

Group (mg/kg)	Treatment: Tetanus toxoid Sensitization: Dorsal intradermal	Treatment: Tetanus toxoid Sensitization: Intramuscular	Treatment: Abdominal intradermal challenge	Average score*: 24 hrs**	Average score*: 48 hrs**
Control	10 μL/site x 12 sites	0.6 mL/animal	0 Lf/mL	0.00	0.00
			1 Lf/mL	1.67	1.00
			3 Lf/mL	3.00	2.67
			10 Lf/mL	3.33	3.00
4D11 1 (mg/kg)	10 μL/site x 12 sites	0.6 mL/animal	0 Lf/mL	0.00	0.00
			1 Lf/mL	0.67	0.67
			3 Lf/mL	1.00	0.67
			10 Lf/mL	1.00	1.00
4D11 10 (mg/kg)	10 μL/site x 12 sites	0.6 mL/animal	0 Lf/mL	0.00	0.00
			1 Lf/mL	0.00	0.00
			3 Lf/mL	0.67	0.33
			10 Lf/mL	1.00	0.67

Remarks: * Response score

formation of erythema and/or eschar

- no erythema : 0
- very slight erythema (barely perceptible) : 1
- well-defined erythema : 2
- moderate to severe erythema : 3
- from severe erythema to slight crust (deep injury) : 4

** time after challenge

formation of edema

- no edema : 0
- very slight edema (barely perceptible) : 1
- slight edema (edges of area well defined by definite raising) : 2
- moderate edema (raised about 1 mm) : 3
- severe edema (raised 1 mm or more and extending beyond area of exposure) : 4

Title: MUTANTS OF ANTI-CD40 ANTIBODY
Inventor(s): Nobuaki TAKAHASI et al.
DOCKET NO.: 081356-0262

Fig. 18

(Maximum dilution rate for positive effect)

Group	Animal No.	pre	Days after the 1st dose						
			4	7	11	14	18	21	23
Control	1	0	200	0	12800	102400	204800	204800	204800
	2	0	0	0	6400	25600	51200	51200	51200
	3	0	0	0	6400	12800	25600	25600	25600
	Mean	0	67	0	8533	46933	93867	93867	93867
	S.D.	0	115	0	3695	48460	96920	96920	96920
1 (mg/kg)	4	0	0	0	200	1600	12800	12800	12800
	5	0	0	0	200	400	6400	6400	6400
	6	0	0	0	400	3200	6400	6400	6400
	Mean	0	0	0	267	1733	8533	8533	8533
	S.D.	0	0	0	115	1405	3695	3695	3695
10 (mg/kg)	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0
	9	0	0	0	0	0	0	0	0
	Mean	0	0	0	0	0	0	0	0
	S.D.	0	0	0	0	0	0	0	0

Title: MUTANTS OF ANTI-CD40 ANTIBODY
Inventor(s): Nobuaki TAKAHASI et al.
DOCKET NO.: 081356-0262

Fig. 19

(Maximum dilution rate for positive effect)

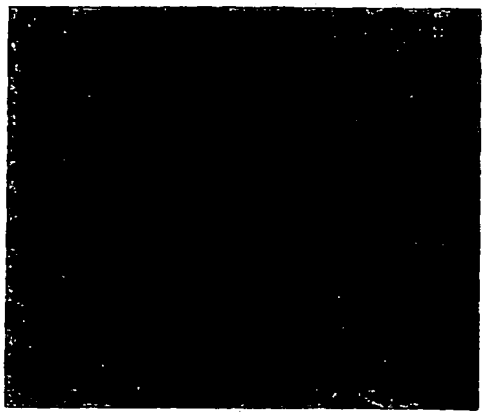
Group	Animal No.	pre	Days after the 1st dose						
			4	7	11	14	18	21	23
Control	1	0	0	0	3200	6400	6400	6400	6400
	2	0	0	0	1600	1600	1600	1600	800
	3	0	0	0	800	1600	1600	1600	1600
	Mean	0	0	0	1867	3200	3200	3200	2933
	S.D.	0	0	0	1222	2771	2771	2771	3029
1 (mg/kg)	4	0	0	0	0	0	400	0	0
	5	0	0	0	0	0	0	0	0
	6	0	0	0	0	800	800	800	800
	Mean	0	0	0	0	267	400	267	267
	S.D.	0	0	0	0	462	400	462	462
10 (mg/kg)	7	0	0	0	0	0	0	0	0
	8	0	0	0	0	0	0	0	0
	9	0	0	0	0	0	0	0	0
	Mean	0	0	0	0	0	0	0	0
	S.D.	0	0	0	0	0	0	0	0

Fig. 20A

Human control IgG4

Anti-CD40 antibody (4D11)

Murine control IgG2



Anti-CD40L antibody (5C8)

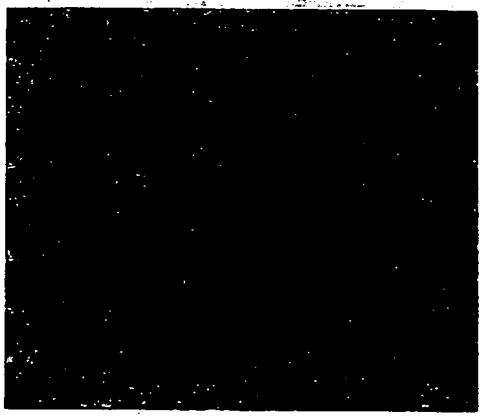


Fig. 20B

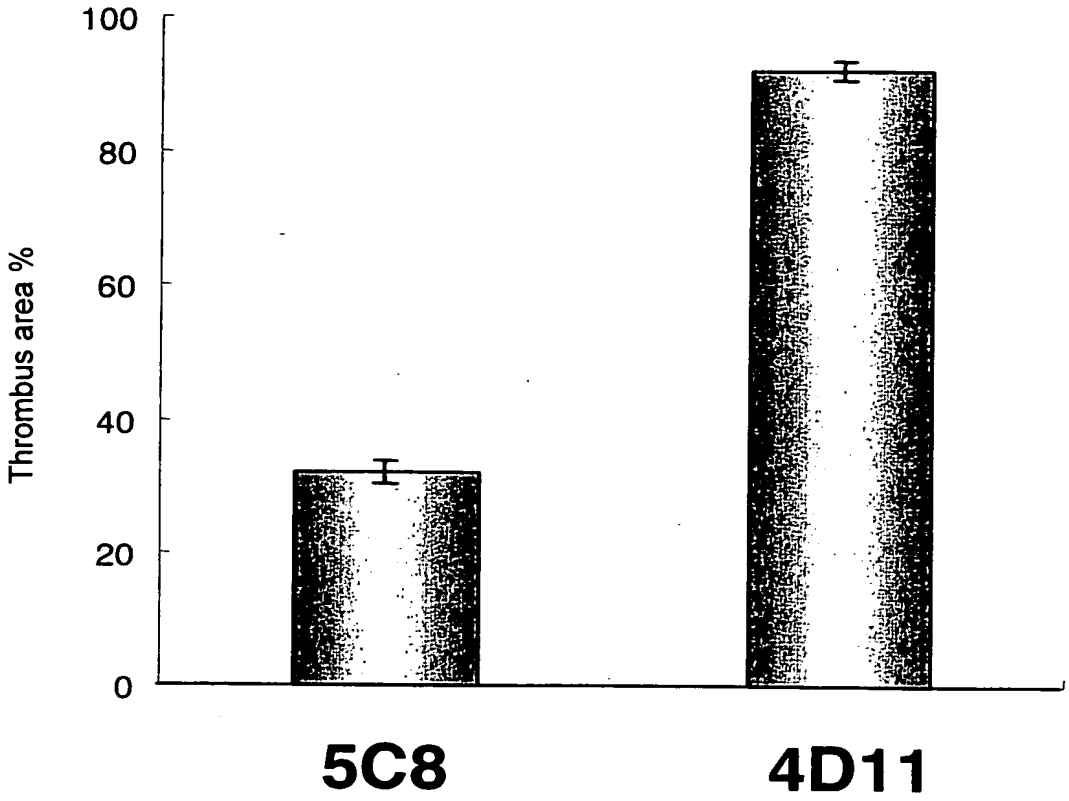


Fig. 21

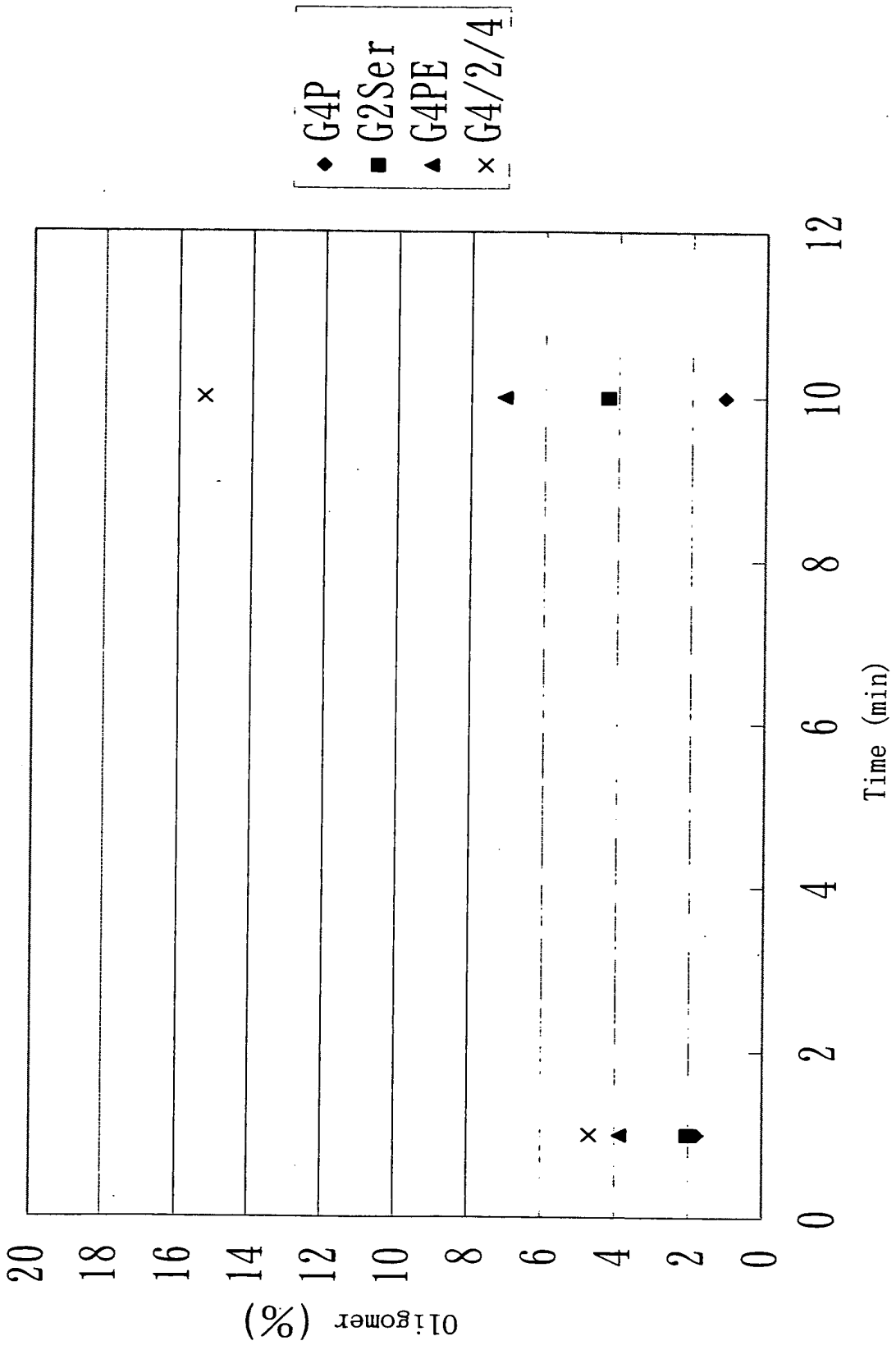


Fig. 22

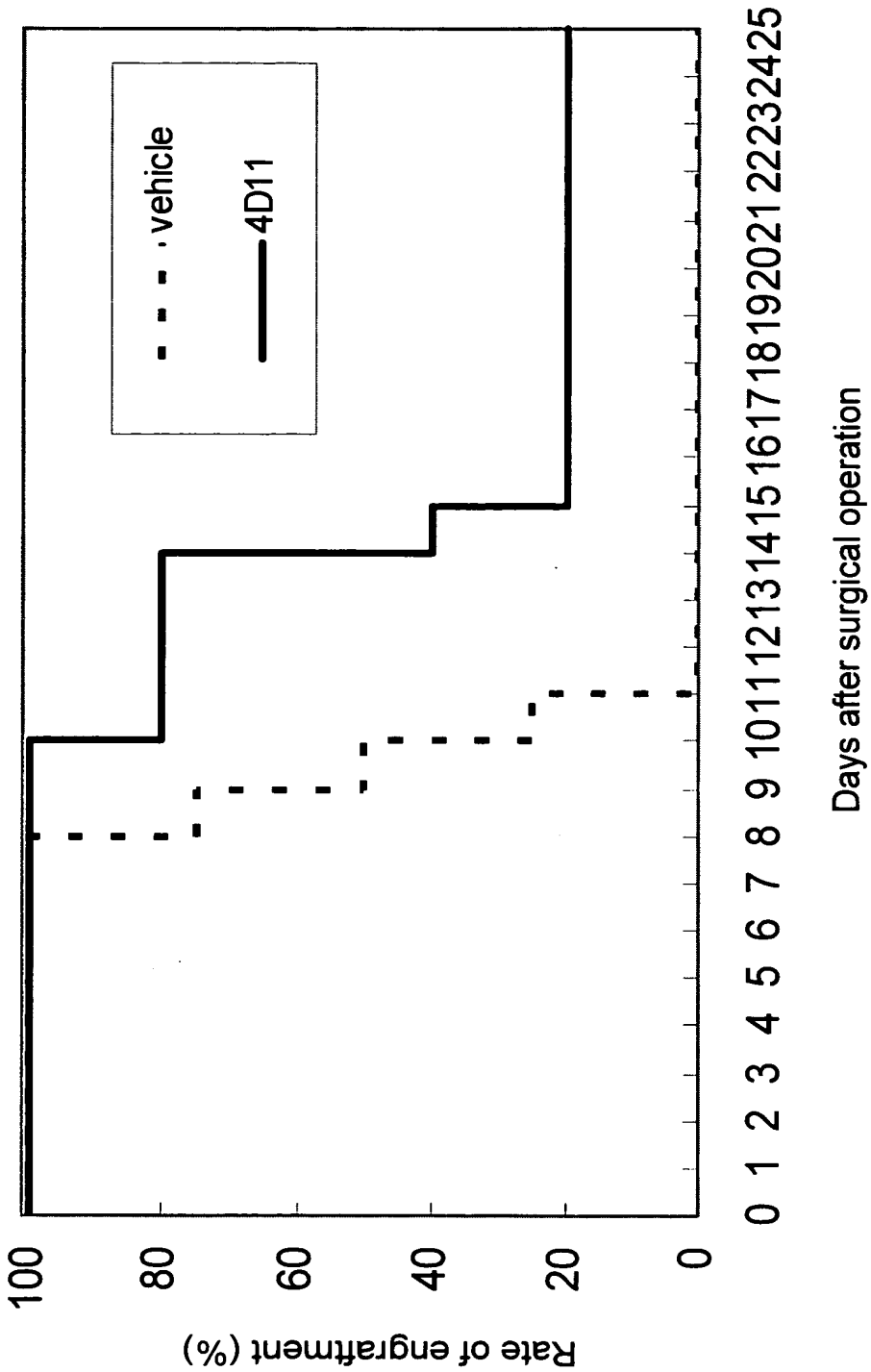


Fig. 23

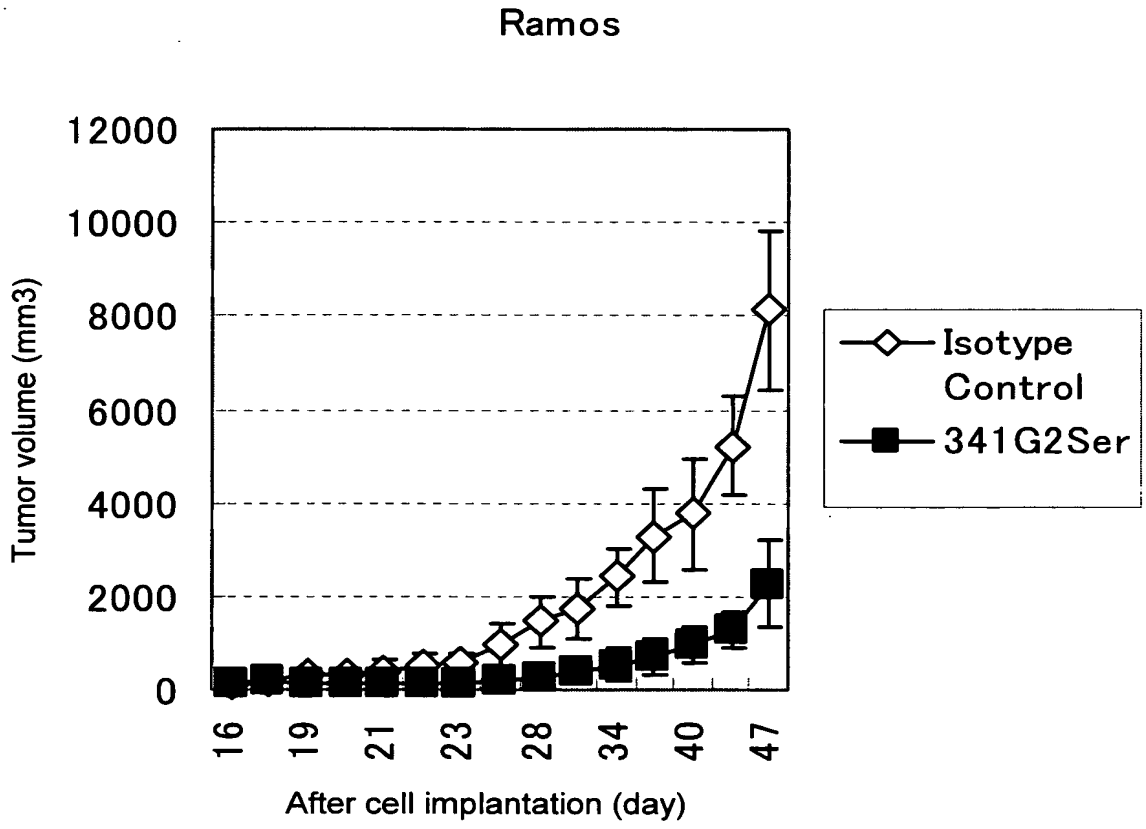


Fig. 24

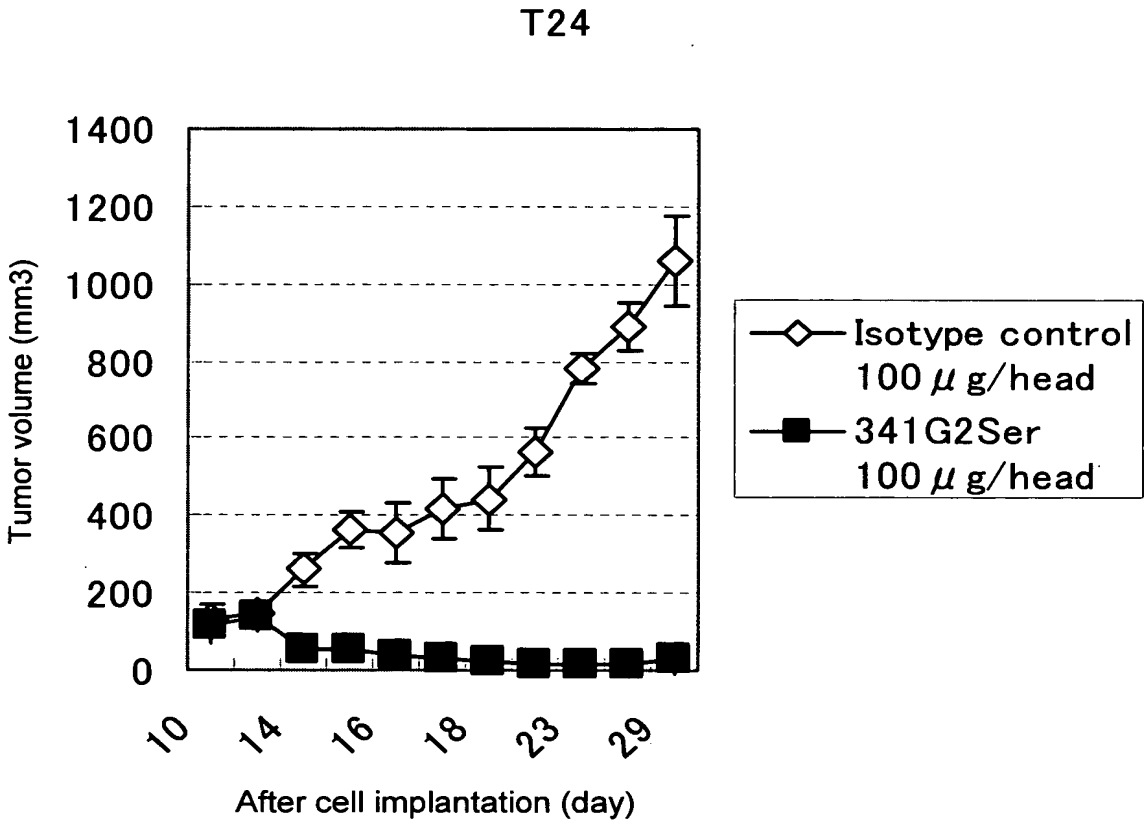


Fig. 25

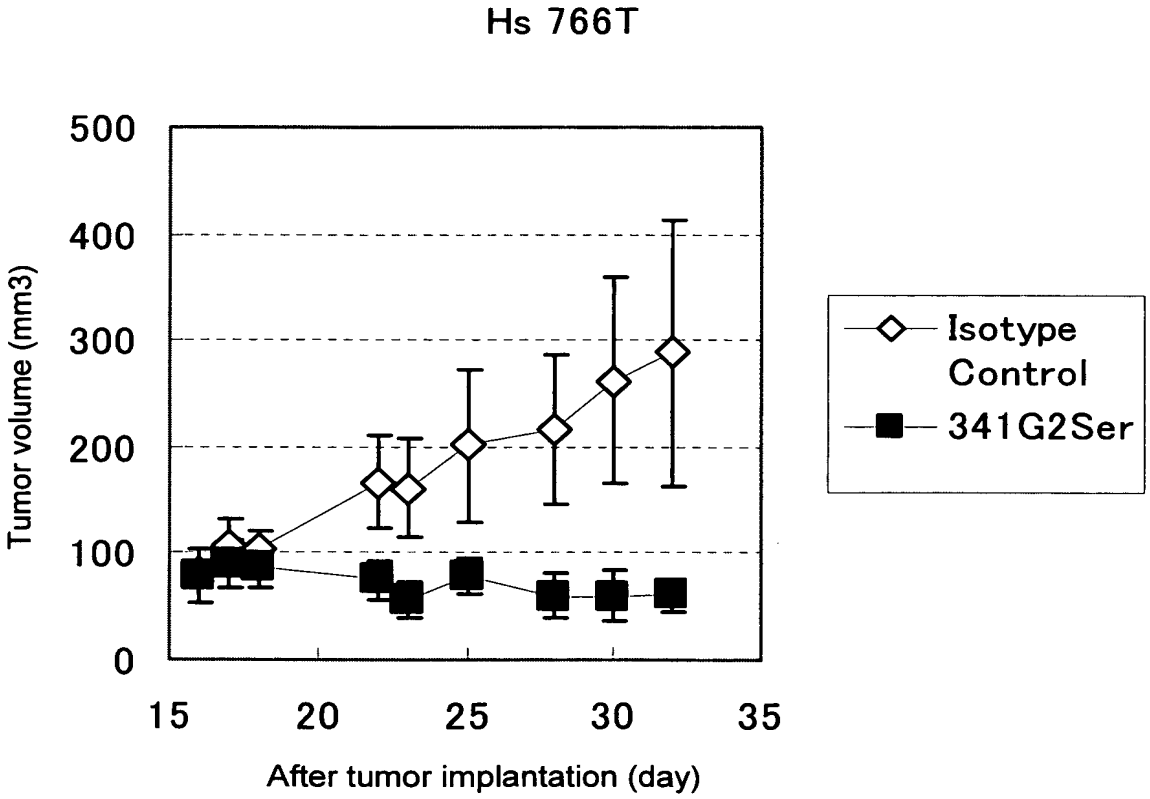


Fig. 26